Glenmore-Ellison Improvement District
2015 Annual Report

Prepared by: Andrerw Cammell, GEID Water Quality/Conservation Technician
Reviewed by: Mike Rojem
For: Interior Health

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INTRODUCTION

Glenmore-Ellison Improvement District (GEID) is required to provide an annual report to Interior Health Authority that includes:

- System Description
- Source Assessment Synopsis
- Annual consumption data
- Updates to Water System Assessment and Capital Works Plan
- Updates to Water Monitoring Plan
- Updates to Emergency Response Plan
- Updates to Cross Connection Control Program
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1.0 SYSTEM DESCRIPTION

Glenmore-Ellison Improvement District (GEID) is one of five main water purveyors in Kelowna, British Columbia. The District boundaries extend across an area of approximately 3,694 hectares (36.94 km^2, or 9,127.877 acres), of which 1,750 hectares (4,330 acres) of land is serviced with water, of which 786 hectares is bonafide agricultural land. GEID supplies water to approximately 6,817 residential service connections, serving an estimated population of 17,043 people.

The distribution system consists of three distinct geographical areas, Glenmore, Ellison, and McKinley Landing. Glenmore receives water from Okanagan Lake via McKinley Reservoir. McKinley Landing receives water directly from Okanagan Lake. Ellison receives water from Kelowna Creek, which is drawn from a 1,200 m^3 intake pond, and then passed through a coarse screen (40 mesh, 400 micron) and piped to the Postill Pump Station and Reservoir, the head-works of the Ellison system. Ellison is also supplemented by the use of well water.

The Glenmore distribution system begins at the intake on Okanagan Lake where the Joe Bulach Pump Station pumps raw water into McKinley Reservoir. McKinley, located on McKinley Road, is a storage reservoir with an operating capacity of 1.17 million m^3 of water. Water from this reservoir is disinfected by gas chlorination at the adjacent chlorinator. There are five other balancing reservoirs in the Glenmore distribution system, namely the Union Road, Big Rock, Scenic Road, Quail Ridge, and UBCO Reservoirs. The Union Road Reservoir is a 4,500 m^3 concrete enclosed structure equipped with a liquid chlorine re-injection system that supplies mostly residential properties and a small commercial core within Glenmore. The Big Rock Reservoir is a 1,500 m^3, two-celled concrete structure that supplies the Wilden development area and is located on Big Rock Ct. off of Union Rd. The Scenic Road Reservoir is a 235 m^3 concrete enclosed reservoir consisting of three separate chambers. The Quail Ridge reservoir, located at the highest point of elevation near the Quail Ridge housing development, is a two chambered, 2,500 m^3 enclosed concrete structure. The UBCO reservoir, located between the Quail Ridge development and UBCO, is a 6,000 m^3 enclosed concrete structure consisting of two chambers, with provision for a third cell in the future. Booster stations maintain the water levels in the Union, Scenic, Big Rock, Quail and UBCO reservoirs.

GEID operates five wells located in various areas of the District to supplement the surface water supplies. Two wells servicing the Glenmore system include the Lochrem Road well and Vector well. The Vector well, located near Innovation Drive at the entrance to the University of British Columbia, is no longer in service due to fouling. The Lochrem Road well is a raw water source located north of the Pier Mac gravel pit along Quail Ridge Boulevard. The Lochrem well is capable of supplying water directly into McKinley Reservoir; however, it was not utilized for supplementing the surface water source in 2015.

The Ellison distribution system includes a 2,000 m^3 enclosed concrete reservoir and pump-house equipped with a chlorine gas injection system. There are three wells in the Ellison system. Airport Wells #1 and #2 are located near the northern junction of Old Vernon Road and Hwy 97, and Ellison Well is located at the junction of Anderson Road and Old Vernon Road. The Ellison system is gravity supplied from Kelowna Creek for the majority of the year. However, the wells are used during spring freshet and times of major storm events to reduce the impacts of increased turbidity, and also to provide supplemental flows during periods of peak system demand.

On January 1, 2005, Glenmore Ellison Improvement District obtained McKinley Landing Water Works. Water for this system is obtained directly from an intake on Okanagan Lake at the Dewdney Pump Station and treated with chlorine gas. The water is pumped from the Dewdney pump station to the Arthur Court Reservoir, which has a capacity of 795 m^3, and gravity fed to the Shayler pump station which fills the Shayler Road Reservoir (720m^3) which gravity feeds the rest of the system.

Glenmore-Ellison Improvement District operates with a total of six interconnections with other adjacent water suppliers to provide an alternate supply of water in event of an emergency situation. Two of the six interconnections are with the Black Mountain Irrigation District water system and the remaining four are with the City of Kelowna water system.

2.0 SOURCE ASSESSMENT

Until 2014, the District's principal source of water was delivered from the Kelowna Creek watershed, which lies east of the Kelowna Airport. Water from snow melt during spring runoff is stored behind dams at Postill, Moore, and South Lakes. This water is subsequently released into Mill Creek and then diverted to distribution within the Ellison area. GEID also operates five wells located in various areas of the District to supplement the surface water supplies. All water is treated with chlorine and the mountain source water is also run through screens (40 mesh, 400 micron).

In 2014, the District began pumping higher quality Okanagan Lake water to supply the Glenmore distribution area. This includes the Glenmore Valley, the Sexsmith area, UBCO, the Kelowna Airport and Quail Ridge. Creek water, previously the primary water source in McKinley Reservoir, is no longer being delivered to the reservoir. GEID's new intake now provides solely Okanagan Lake water to McKinley Reservoir. The intake is currently the deepest intake on Okanagan Lake, and is situated in a desirable location, distant from local valley creeks and other surface influences.

The next phase of works currently under construction includes ultraviolet (UV) disinfection that will improve water quality and add an additional source protection barrier to the supply. Subject to meeting Interior Health's filtration deferral criteria, UV disinfection is expected to allow GEID to fully comply with Interior Health's Drinking Water Treatment Objectives for Surface Water Supplies in BC.

By utilizing low turbidity water from deep within Okanagan Lake, along with state-of-the-art UV disinfection, GEID hopes to provide safe, cost effective, high quality drinking water that meets Canadian Guidelines year-round and the Drinking Water Treatment Objectives for Surface Water Supplies in BC.

The GEID continues their ongoing work to ensure the water supplies are not impacted by other watershed user groups. GEID stays in continual contact with watershed stakeholders in an effort to reduce risks and address identified hazards to water quality.

WATER SOURCES

GEID uses a combination of surface and groundwater sources for water supply to their system. The ground water sources are primarily used to supplement system demand and improve water quality. The majority of the water originates from Okanagan Lake and Kelowna/Mill Creek.

MILL CREEK

GEID has continued to actively monitor the watershed which feeds Mill Creek with regular inspections of Bulman Reservoir, Postill Reservoir and South Lake Reservoir. During the summer months, there are employees touring the watershed sampling for various parameters and speaking with the public who are using the watershed for leisure activities. GEID also meets with the individual watershed stakeholders to ensure progress towards specific action items in the Mill Creek source protection plan are being addressed. Heather Larratt from Larratt Aquatic Consulting has been contracted to monitor the biological aspects of the three mid elevation reservoirs.

OKANAGAN LAKE/MCKINLEY LANDING INTAKES

GEID has implemented their water quality monitoring program for the Okanagan Lake Intake and McKinley Reservoir. Extensive monitoring by Larratt Aquatic

Consulting has provided data needed to characterize the sources. This information is used to understand biological process so that operational procedures can be suitably implemented as needed, to maintain high drinking water quality. The information is also used for design of new water treatment infrastructure.

The objective of an assessment summary of GEID's Okanagan Lake intakes was to identify current and forecast future drinking water hazards and vulnerabilities, characterize the risk posed by each hazard, and provide actionable recommendations to reduce impacts on the intake. The "Okanagan Lake Source Assessment Report", received from Larratt Aquatic Consulting, has been completed and submitted to GEID.

Okanagan Lake is a major lake in the interior of British Columbia. It provides drinking water for over 100,000 people and is the backbone of the region's economy. Okanagan Lake is large and deep, averaging 76 m. Deep water intakes are shielded from most surface contamination throughout the summer because the lake stratifies each year from May to November. There are no major inflows into Okanagan Lake near either of GEID's intakes.

The assessment characterizes natural and man-induced hazards to drinking water quality as physical, chemical or biological. As these risks change over time, revisions of this document may be needed. Existing research was augmented by 2012-2013 field studies of water currents, water quality profiles, and algae sampling in Okanagan Lake near the intakes. This research was used to define a proposed intake protection zone, based on a two-hour travel time of water currents to the intake under moderate winds. The largest potential impacts identified in this study include shoreline residential use, power boating, watershed influences, and the threat of invasive mussels.

Specific recommendations and action plans were developed with the dual aim of providing the best water quality and providing support to a future GEID application to Interior Health (IH) for exclusion of filtration. Key recommendations include: applying best management practices for shoreline protection, applying to Interior Land Management Bureau (ILMB) for a license of occupation for the intake protection zone, add UV disinfection, investigate the potential benefits of extending the Dewdney Intake to >20m.

WELL PROTECTION PLAN

A ground water protection initiative was under taken by the Kelowna Joint Water Committee (KJWC) in response to the Terms and Conditions placed on GEID by Interior Health's operating permit requirements. The KJWC is made up of the five major water suppliers in Kelowna who are: The City of Kelowna, South East Kelowna Irrigation District, Glenmore-Ellison Improvement District, Black Mountain Irrigation District and Rutland Waterworks. The KJWC has been following the Groundwater Protection Toolkit issued by the Ministry of Environment, and working through the process with Golder Associates.

Phases I and II have identified well capture zones, completed an inventory of potential contaminant chemicals and locations of concern for the wells in consideration. Recommendations for going ahead with a more in-depth groundwater protection plan and risk management have been completed as well. The technical portion of Phase III which includes mapping, a review of risk assessments of each well, cataloguing the risks, ranking the risks and developing a risk mitigation strategy has also been completed.

A concern identified has been private wells that have not been reported to provincial agencies responsible for maintaining a well database. The potential hazard of aquifer contamination from improperly drilled and maintained wells is quite high.

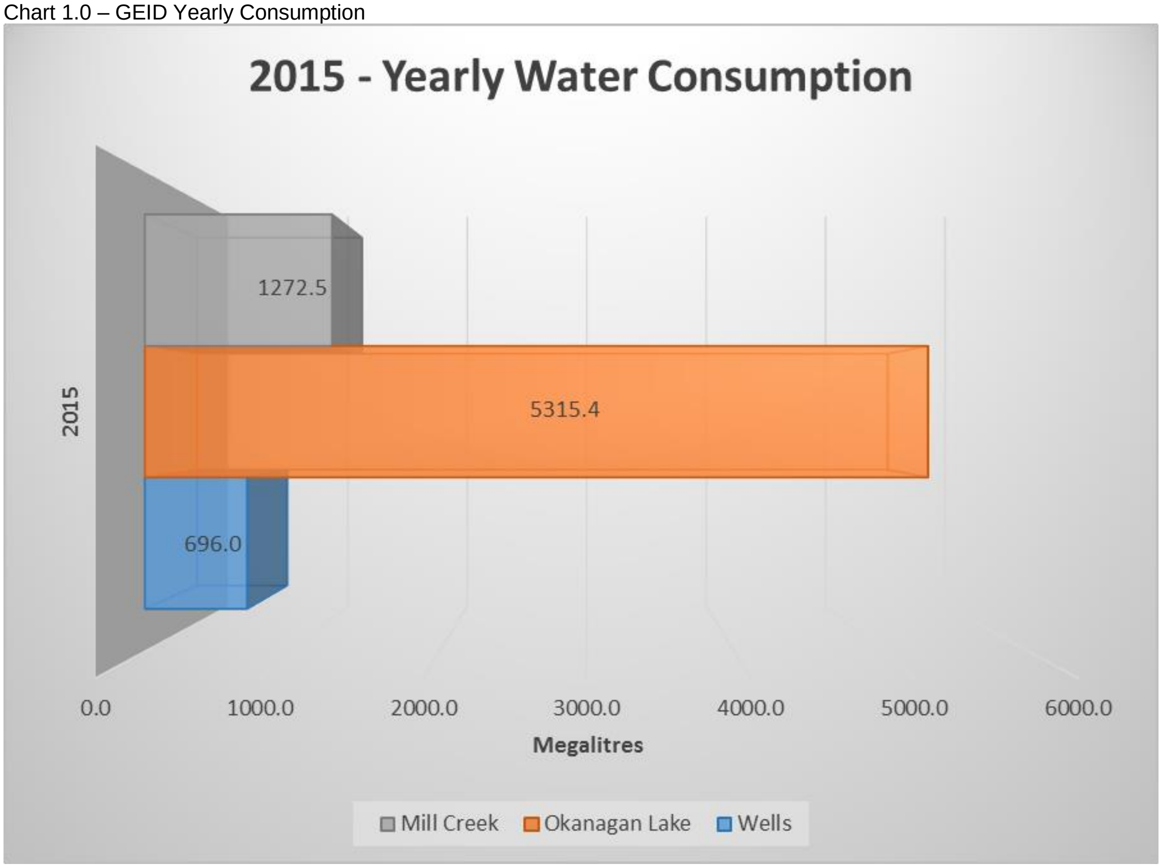
GEID has implemented a Well Head Protection Plan by upgrading facilities to flood proof and protecting well heads. All GEID wells have sanitary seals installed and are enclosed within above ground structures.

Additionally, noted was the risk of geothermal heating installations as a threat to groundwater according to the initial and second phases of the KJWC Kelowna Aquifer Assessment. There were some areas of vulnerability within city boundaries identified. Some portions of the Aquifer remain unconfined and pose a risk and possibility of contamination to the Airport Wells #1 and #2.

3.0 ANNUAL CONSUMPTION DATA – 2015

In 2015, the District obtained approximately 73% of its water from the Joe Bulach Pump Station on Okanagan Lake, 17.5% of its water from the Kelowna Creek Watershed, which includes Postill Lake, Bulman Lake, and South Lake, and pumped 9.5% from two of the four main wells located in the Glenmore and Ellison areas. The total consumption was 7283.90 ML, of which 696.0 ML was supplied from groundwater sources, and 155.0 ML was supplied to McKinley Landing from Okanagan Lake. The balance of the water, 1272.50 ML. was supplied from Kelowna Creek directly to the Ellison distribution system. The new Okanagan Lake Pump Station delivered 5160 ML to the McKinley Reservoir.

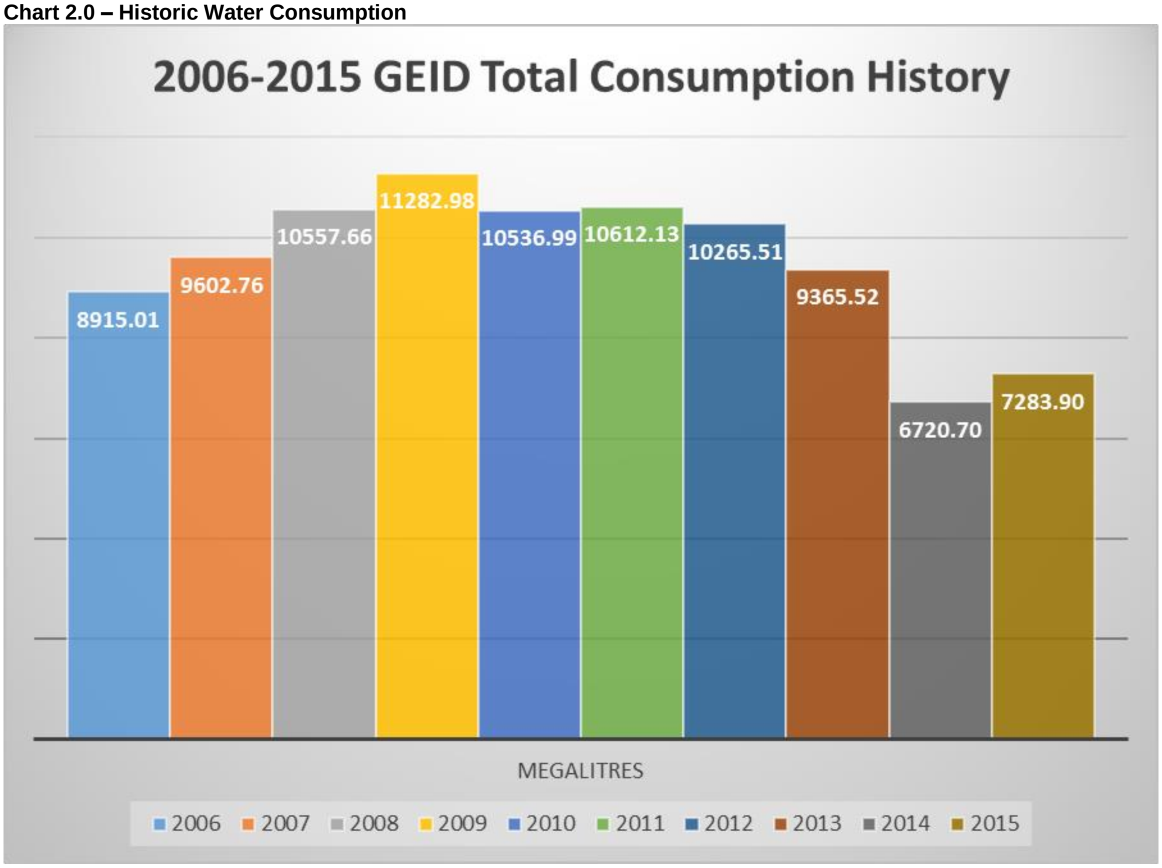
Chart 1.0 – GEID Yearly Consumption



4.1 HISTORIC GEID WATER CONSUMPTION

The historic GEID water consumption since 2006 is illustrated in Chart 2.0. The figure shows the actual recorded water consumption in Megaliters per year MLY) and includes a trend line. for the recorded volumes. It should be noted that McKinley Landing was integrated into the GEID system in 2006.

Chart 2.0 – Historic Water Consumption



4.0 UPDATES TO WATER SYSTEM ASSESSMENT AND CAPITAL WORKS PLAN

Through 2015, the 2015-2019 Capital Works Plan remained in effect, with GEID completing the new Okanagan Lake intake, pump station, and transmission mains to McKinley Reservoir.

The GEID water system is complex, with the majority of the water supplied being used for both domestic and agricultural irrigation. The historic water demand records show how water usage has increased from around 3,000 MLY in the early seventies, to figures in the range of 7,000 MLY for the last 3 years. The highest water consumption took place in 2009 with more than 11282.98 ML used during the year. The increase in water demands is the result of a combination of factors including extension of the District's boundaries, densification and new development.

GEID's water system is comprised of three separate sub-systems using several water sources.

5.1 GLENMORE AREA

The largest sub-system is located in the Glenmore Valley and uses Okanagan Lake water for meeting user demands. Water from Okanagan Lake is pumped to McKinley Reservoir, located at the north-west end of the system. Water is disinfected by chlorine injection immediately downstream of the McKinley Reservoir prior to entering the distribution system. There are 2 ground water sources (Airport Wells No. 1 and No. 2) that supplement the water supply to the Ellison or Glenmore system depending on system dynamics.

The first priority project planned for by the Glenmore system is the installation of an UV Disinfection facility. GEID is working in the detailed design of a facility that will initially treat 79 MLD with UV light. The goal is to have the UV treatment in place by the end of 2016. This project will address inactivation of *Giardia* and *Cryptosporidium* requirements.

The transmission main that conveys water from McKinley Reservoir has limited spare capacity for servicing additional demands, therefore flows are closely monitored. Rather than installing additional infrastructure to increase the hydraulic capacity, the District will obtain a higher benefit if a separation plan for the agricultural irrigated lands within the Glenmore Valley is completed.

The separation of the distribution system will reduce the flows to be conveyed by the transmission main downstream of McKinley Reservoir. This project not only improves the transmission main operational conditions but will also bring savings in pumping costs. Currently, water for irrigation is pumped from Okanagan Lake to McKinley Reservoir and then pumped through Tutt Pump Station or Scenic Pump Station. The District has the option of supplying agricultural irrigation water by gravity using existing infrastructure. It should be noted that additional works will be required to fully take advantage of supplying irrigation by gravity. A third benefit of implementing this project is a reduction on the capital and operational costs of future treatment facilities at McKinley Reservoir due to reduced flows to be treated. It is estimated that the separated Maximum Day Demand will be in the range of 265L/s or 22.9 MLD (for the entire separation area proposed).

5.2 ELLISON AREA

The Ellison Area uses Kelowna/Mill Creek as its main water source. Water supply is supplemented by Ellison Well. Ellison Well has no capacity to supply both domestic and irrigation demands. It should be noted that the strata subdivisions at the north-west end of the Ellison Area are normally serviced exclusively from Airport Wells.

Water consumption in the Ellison Area is mostly for irrigation purposes, estimated at 97% of the MDD during the irrigation season. Drinking Water quality in the

Ellison Area is compromised at times of the year when Kelowna/Mill Creek experiences high turbidity. The current situation in the Ellison system is challenging as treating all water is not economically feasible. The alternative is to carry out a system separation that would allow the installation of treatment facilities to improve drinking water quality and its delivery to users by a new distribution system. The existing distribution system would be retained for supply of agricultural irrigation demands and fire protection.

GEID cannot afford the Ellison sytem separation as one single project unless additional funding becomes available. The proposed approach for Ellison is to complete the separation in phases and carry it out as funding from the water quality improvement reserve or other sources becomes available. The proposed timeline is to initiate the separation of the upper pressure zone (PZ 542) in 2017 and have it completed by the end of 2019. Separation of the lower pressure zone (PZ 495) is scheduled to start in 2020 and will take 3 years to complete.

5.3 MCKINLEY AREA

The area west of the McKinley Reservoir is expected to experience significant growth with the development of McKinley Beach lands. The current system (Dewdney Road Intake & Pump Station) uses Okanagan Lake treated by chlorination. The existing users of the McKinley Landing area will be provided with the option to maintain the existing source or use higher quality water through a proposed interconnect with the Glenmore system. If residents choose to maintain the existing source, further treatment may be required to meet Interior Health's requirements.

New users in the McKinley Beach Development as well as users serviced from pressure zone (PZ 553) will be supplied with water from the treatment facilities downstream of McKinley Reservoir. A new transmission main and pump station are required for delivery of water from
treatment facilities to PZ 553. Both of these projects are included in the Capital Plan as they bring benefits to existing users but it should be noted that about 91% of the cost is to be covered by the developer.

New developments within the McKinley Landing area will be supplied with water from the treatment facilities downstream of McKinley Reservoir. A new transmission main and pump station are required for delivery of water from treatment facilities to PZ 553.

The water distribution system upgrades and the water treatment upgrades required by the existing users were identified and included a review of all system components from water licensing to treatment and distribution.

GEID continues to add and upgrade SCADA equipment and instrumentation to ensure adequate alarm response.

5.0 WATER QUALITY/UPDATES TO WATER QUALITY MONITORING PLAN

Several projects GEID plans to implement include those that are related to water quality improvements. Interior Health (IH) requires all water suppliers to implement the Drinking Water Objectives for Surface Water Supplies in BC. These are a set of goals to achieve:

- 4 log inactivation of viruses;
- 3 log removal or inactivation of *Giardia lamblia* and Cryptosporidium;
- 2 treatment processes for all surface drinking water systems;
- 1 refers to less than 1 NTU of turbidity with a target of 0.1 NTU;
- 0 Total Coliforms and E coli.

There are a number of treatment options available to meet these objectives. Selection of the appropriate treatment depends on several factors that include the raw water characteristics. Following is a discussion of GEID water quality for each of the sources used in the system.

GEID water distribution system uses a combination of surface and groundwater sources. The majority of the water in the system is originated from Okanagan Lake and Kelowna/Mill Creek. Groundwater is mainly used to improve water quality, for emergency, irrigation and back up. Water quality data provided by GEID is summarized and discussed below.

6.1 SURFACE WATER QUALITY

MCKINLEY RESERVOIR

During 2015, the Joe Bulach Pump Station supplied water from Okanagan Lake into McKinley Reservoir. In the past, McKinley Reservoir was supplied from Kelowna/Mill Creek. Water quality data shows that turbidity levels have dropped to in and around the 1 NTU level and color has significantly reduced as well.

There was no definite evidence showing that the water biochemistry has stabilized as of December, 2015. During 2015 there was an increase on the water pH that required GEID to adjust the chlorine dosage in order to meet the 3-log Giardia removal objective during the period of peak demand. When water pH levels increase, chlorine dosage must increase in order to attain the desirable CT levels. GEID is planning the design and construction of a UV Treatment Facility to target the 3-log inactivation of Cryptosporidium, and Giardia. Once the UV treatment facility enters operation, chlorine dosages are expected to decrease while complying with the requirement of 4-log removal of viruses.

The UV treatment facility is a key component of a comprehensive plan. GEID has completed a pilot screening program that has shown satisfactory results in terms of reducing water turbidity with the screens.

GEID plans to develop the treatment facilities in stages. Priority will be given to the design and construction of the UV Treatment Facility, taking into account the addition of the drum screens for a future stage, if required. Proceeding in stages will also give an opportunity to learn more about McKinley Reservoir biochemical behaviour, particularly turbidity levels.

KELOWNA / MILL CREEK

There are three open water reservoirs in the Kelowna/Mill Creek watershed that supply water to the Ellison distribution system. The table below presents raw water quality data for Bulman, South Lake and Postill reservoirs. Water from the upper reservoirs flows through Kelowna/Mill Creek to Postill Rd. intake pond, then it is treated with chlorine and delivered to the Ellison Valley system. The Ellison Valley is located within the Regional District of Central Okanagan (RDCO), outside of the city boundary and consists of a number of domestic users plus an extensive area dedicated to agriculture. Treated water in the distribution system is primarily used for agriculture as 97% of the maximum daily demand is for irrigation and only 3% is used for domestic consumption. Hence the plans to implement the separation of the Ellison distribution system. One system will serve the domestic demand in compliance with IH 4-3-2-1-0 objectives and the second system will be subject to chlorination and serve irrigation and fire protection purposes.

Treatment to reduce water turbidity will be required in addition to a secondary treatment to reduce the risk of microbial or health threats.

GEID has commissioned a study to identify options available to implement the system separation.

MCKINLEY LANDING

In 2004 McKinley Landing Waterworks was purchased by GEID. The water for this system is drawn from Okanagan Lake via the Dewdney Pump Station.

6.2 GROUND WATER QUALITY

GEID ground water sources include five wells which are Airport Well No. 1 and No. 2, Ellison Well, Lochrem Well and Vector Well No. 1. Water quality data is attached. Vector Well No. 1 is not in use and requires re-habilitation before it can be operated. All other wells are utilized depending on system requirements.

6.3 WATER QUALITY COMPLIANCE

Table 1.0 - System Water Quality

Parameter	Units	17-Sep-15	17-Sep-15	17-Sep-15	Objective
		Union Rd. Post Res.	Postill Rd. T/S	Arthur Ct. Res.	
Anions					
Alkalinity, Total as $CaCO_3$	mg/L	107	21	111	
Chloride	mg/L	8.66	6.27	6.97	AO≤250
Fluoride	mg/L	0.14	<0.10	0.14	MAC = 1.5
Nitrogen, Nitrate as N	mg/L	<0.010	0.027	0.029	MAC = 10
Nitrogen, Nitrite as N	mg/L	<0.010	<0.010	<0.010	MAC = 1
Sulfate	mg/L	29.1	2.2	29.3	AO≤500
General Parameters					
Colour, True		<5	<5	14	AO≤15
Conductivity	uS/cm	292	72	288	
Cyanide, total		<0.010	<0.010	<0.010	MAC = 0.2
pH		7.85	7.1	7.93	AO = 6.5-8.5
Turbidity	NTU	1.0	1.9	0.3	MAC = 1.0
UV Transmittance @ 254 nm	%	90.7	66.9	90.9	
Hardness, Total (as $CaCO_3$)	mg/L	132	29.8	130	
Solids, Total Dissolved	mg/L	165	34.6	165	AO≤500
Total Recoverable Metals					
Aluminum	mg/L	< 0.05	0.10	0.05	OG < 0.1
Antimony	mg/L	< 0.001	< 0.001	< 0.001	MAC = 0.006
Arsenic	mg/L	< 0.005	< 0.005	< 0.005	MAC = 0.01
Barium	mg/L	< 0.05	< 0.05	< 0.05	MAC = 1
Beryllium	mg/L	< 0.001	< 0.001	< 0.001	N/A
Boron	mg/L	< 0.04	< 0.04	< 0.04	MAC = 5
Cadmium	mg/L	< 0.0001	< 0.0001	< 0.0001	MAC = 0.005
Calcium	mg/L	36.1	8.2	35	N/A
Chromium	mg/L	< 0.005	0.005	0.005	MAC = 0.05
Cobalt	mg/L	< 0.0005	< 0.0005	< 0.0005	N/A
Copper	mg/L	0.007	0.009	0.023	AO = ≤ 1
Iron	mg/L	< 0.10	0.36	< 0.10	AO = ≤ 0.3
Lead	mg/L	< 0.001		< 0.001	MAC = 0.01
Magnesium	mg/L	10.3	2.2	10.4	N/A
Manganese	mg/L	0.017	0.018	<0.002	AO = ≤ 0.05
Mercury	mg/L	< 0.00002	<0.00002	<0.00002	MAC = 0.001
Molybdenum	mg/L	0.003	0.004	0.004	N/A
Nickel	mg/L	< 0.002	< 0.002	< 0.002	N/A
Phosphorus	mg/L	< 0.2	< 0.2	< 0.2	N/A
Potassium	mg/L	2.6	0.8	2.8	N/A
Selenium	mg/L	< 0.005	< 0.005	< 0.005	MAC = 0.05
Silicon	mg/L	< 5	5	< 5	N/A
Silver	mg/L	< 0.0005	< 0.0005	< 0.0005	N/A
Sodium	mg/L	12.4	2	12.4	AO = ≤ 200
Uranium	mg/L	0.0022	< 0.0002	0.0024	MAC = 0.02
Vanadium	mg/L	< 0.01	< 0.01	, 0.01	N/A
Zinc	mg/L	< 0.04	< 0.04	< 0.04	AO = ≤ 5
Microbiological Parameters					
Coliforms, Total	CFU/100ml	<1	<1	<1	MAC <1
E. Coli	CFU/100ml	<1	<1	<1	MAC<1

AO: Aesthetic Objective
MAC: Maximum Acceptable Concentration as per Canadian Drinking Water Guidelines.

Table 2.0 - Total Trihalomethanes

Parameter	Units	2-Jun-15	2-Jun-15	2-Jun-15	Objective
		Rittich Rd. T/S	GEID Office Lab	Arthur Ct. Res	
Total Trihalomethanes	mg/L	0.266	0.078	0.07	MAC = 0.1
		10-Nov-16	10-Nov-16	10-Nov-16	
Total Trihalomethanes	mg/L	0.017	0.089	0.077	MAC = 0.1

AO: Aesthetic Objective
MAC: Maximum Acceptable Concentration as per Canadian Drinking Water Guidelines.

According to The Guidelines for Canadian Drinking Water Quality Trihalomethane results are acceptable for two out of three distribution systems during the summer because the Rittich Rd. T/S is located in the Ellison distribution system which is supplied by surface water from Postill, Bulman and South Lakes which are high in organics. The reaction of chlorine and organics leave elevated levels of Trihalomethanes. During the winter months, the Ellison distribution system is supplied by groundwater and does not report levels above the maximum acceptable concentration (MAC).

McKinley Reservoir

According to The Guidelines for Canadian Drinking Water Quality for each parameter in the comprehensive analysis the data shows that McKinley Reservoir raw water has turbidity levels equal to the maximum acceptable value of 1.0 NTU. In general terms, the turbidity level has been decreasing although it has been above the maximum acceptable value at times. Two years has passed since the water source to McKinley Reservoir changed and it is still not clear if turbidity levels are going to remain at the current values. Variations on the Reservoir operation procedures could affect the water turbidity. For instance, due to works on the water mains, the reservoir level had to be lowered and GEID Staff observed that going below 477.35 m would have a negative impact on water turbidity.

McKinley Landing

All water quality parameters meet all guidelines for Canadian Drinking Water Quality. However, the McKinley Landing water system treatment does not comply with the “Drinking Water Treatment Objectives for Surface Water Supplies in BC” because of the single form of disinfection. Water users in the McKinley Landing area will make a choice between implementing the required upgrades at their cost or connecting to the Glenmore system and UV disinfection facilities to be completed in 2016.

Watershed Reservoirs - Ellison Distribution System

All parameters within the Guideline for Canadian Drinking Water Quality are met except for turbidity levels, and Total Coliform and E. coli counts consistently higher than those acceptable by drinking water guidelines. Treatment to reduce water turbidity will be required in addition to a secondary treatment to reduce the risk of microbial or health threats.

GEID has commissioned a study to identify options available to implement the system separation. A capital project is included in this report to address the Ellison system improvements required.

Table 3.0 - Raw Water Quality of Watershed Reservoirs 0.5m

Parameter	Units	Bulman	South	Postill	Objective
Anions					
Total Alkalinity	mg/L	28	29	16	
Nitrogen, Nitrate as N	mg/L	<0.010	<0.010	<0.010	MAC = 10
Nitrogen, Nitrite as N	mg/L	<0.010	<0.010	<0.010	MAC = 1
General Parameters					
Colour, True		79	40	52	AO ≤ 15
pH		7.46	7.53	7.25	AO = 6.5 - 8.5
Turbidity	NTU	1.8	0.8	2.2	MAC = 1.0
UV Transmittance @ 254 nm	%	27.4	47.7	47.5	
Solids, Total Dissolved	mg/L	68	66		AO ≤ 500
Microbiological Parameters					
Coliforms, Total	CFU/100ml	16	240	18	MAC < 1
E.coli	CFU/100ml	<1	<1	<1	MAC <1

AO: Aesthetic Objective
MAC: Maximum Acceptable Concentration as per Canadian Drinking Water Guidelines.

WELLS

All parameters within the Guideline for Canadian Drinking Water Quality are met, except for manganese concentrations. Manganese is a naturally occurring element from rock and mineral erosion and weathering. There are no health concerns related with manganese concentrations expressed in the Guideline. The Guideline provides an aesthetic objective since manganese will impart some taste to the water and creates issues with laundry staining.

Table 4.0 – Water Quality of GEID Wells

Parameter	Units	12-Feb-15	25-Jun-15	17-Sep-16	Objective
		Airport Well #1	Airport Well #1	Airport Well #1	
Anions					
Alkalinity, Total as $CaCO_3$	mg/L	181	182	179	
Chloride	mg/L	12.1	15.4	16.3	AO≤250
Fluoride	mg/L	0.18	0.15	0.13	MAC = 1.5
Nitrogen, Nitrate as N	mg/L	2.41	2.2	1.81	MAC = 10
Nitrogen, Nitrite as N	mg/L	0.011	0.012	<0.010	MAC = 1
Sulfate	mg/L	16.4	18	17.2	AO≤500
General Parameters					
Colour, True		<5	5	<5	AO≤15
Conductivity	uS/cm	416	431	419	
Cyanide, total		<0.010	<0.010	<0.010	MAC = 0.2
pH		7.75	7.7	7.77	AO = 6.5-8.5
Turbidity	NTU	0.3	0.3	0.2	MAC = 1.0
UV Transmittance @ 254 nm	%	94.4	95	95.4	
Hardness, Total (as $CaCO_3$)	mg/L	198	208	215	
Solids, Total Dissolved	mg/L	230	239	239	AO≤500
Total Recoverable Metals					
Aluminum	mg/L	< 0.05	< 0.05	< 0.05	OG < 0.1
Antimony	mg/L	< 0.001	< 0.001	< 0.001	MAC = 0.006
Arsenic	mg/L	< 0.005	< 0.005	< 0.005	MAC = 0.01
Barium	mg/L	< 0.05	< 0.05	< 0.05	MAC = 1
Beryllium	mg/L	< 0.001	< 0.001	< 0.001	N/A
Boron	mg/L	< 0.04	< 0.04	< 0.04	MAC = 5
Cadmium	mg/L	< 0.0001	< 0.0001	< 0.0001	MAC = 0.005
Calcium	mg/L	52.3	56.8	59.2	N/A
Chromium	mg/L	< 0.005	< 0.005	< 0.005	MAC = 0.05
Cobalt	mg/L	< 0.0005	< 0.0005	< 0.0005	N/A
Copper	mg/L	0.002	<0.003	0.006	AO = ≤ 1
Iron	mg/L	< 0.10	< 0.10	< 0.10	AO = ≤ 0.3
Lead	mg/L	< 0.001	< 0.001	< 0.001	MAC = 0.01
Magnesium	mg/L	16.3	16.1	16.4	N/A
Manganese	mg/L	0.096	0.09	0.084	AO = ≤ 0.05
Mercury	mg/L	< 0.00002	< 0.00002	< 0.00002	MAC = 0.001
Molybdenum	mg/L	0.002	0.001	0.001	N/A
Nickel	mg/L	0.008	< 0.002	< 0.002	N/A
Phosphorus	mg/L	< 0.2	< 0.2	< 0.2	N/A
Potassium	mg/L	2.5	2	2.2	N/A
Selenium	mg/L	< 0.005	< 0.005	< 0.005	MAC = 0.05
Silicon	mg/L	13	11	12	N/A
Silver	mg/L	< 0.0005	< 0.0005	< 0.0005	N/A
Sodium	mg/L	9.5	10.1	10.6	AO = ≤ 200
Uranium	mg/L	0.002	0.0021	0.0022	MAC = 0.02
Vanadium	mg/L	< 0.01	< 0.01	< 0.01	N/A
Zinc	mg/L	< 0.04	< 0.04	< 0.04	AO = ≤ 5
Microbiological Parameters					
Coliforms, Total	CFU/100ml	<1	<1	<1	MAC <1
E. Coli	CFU/100ml	<1	<1	<1	MAC<1

AO: Aesthetic Objective
MAC: Maximum Acceptable Concentration as per Canadian Drinking Water Guidelines.

Table 5.0 - Aggregate Organics, (PAH), (VOC)

Parameter	Units	12-Feb-15	Objective
		Airport Well #1	
Aggregate Organic Parameters			
VHw (6-10)	100 µg/L	< 100	N/A
EPHw (10-19)	100 µg/L	< 100	N/A
EPHw(19-32)	100 µg/L	160	N/A
Polycyclic Aromatic Hydrocarbons (PAH)			
Acenaphthene	0.5 µg/L	< 0.05	N/A
Acenaphthylene	0.5 µg/L	< 0.05	N/A
Acridine	0.10 µg/L	< 0.10	N/A
Anthracene	0.5 µg/L	< 0.05	N/A
Benzo (a) Anthracene	0.5 µg/L	< 0.05	N/A
Benzo (a) pyrene	0.01 µg/L	< 0.01	N/A
Benzo (b) fluoranthene	0.5 µg/L	< 0.05	N/A
Benzo (g,h,i) perylene	0.5 µg/L	< 0.05	MAC = 0.01
Chrysene	0.5 µg/L	< 0.05	N/A
Dibenz (a,h) anthracene	0.5 µg/L	< 0.05	N/A
Fluoranthene	0.5 µg/L	< 0.05	N/A
Fluorene	0.5 µg/L	< 0.05	N/A
Indeno (1,2,3-cd) pyrene	0.5 µg/L	< 0.05	N/A
Naphthalene	0.30 µg/L	< 0.30	N/A
Phenathrene	0.10 µg/L	< 0.10	N/A
Pyrene	0.10 µg/L	< 0.10	N/A
Quinoline	0.10 µg/L	< 0.10	N/A
Surrogate: Naphthalene-d8	40-96	71%	N/A
Surrogate: Acenaphthene-d10	45-92	78%	N/A
Surrogate: Phenanthrene-d10	48-90	79%	N/A
Surrogate: Chrysene-d12	41-96	84%	N/A
Surrogate: Perylene-d12	47-104	88%	N/A
Volatile Organic Compounds (VOC)			
Benzene	0.5 µg/L	< 0.5	MAC = 5
Ethylbenzene	1.0 µg/L	< 1.0	AO ≤ 1.6
Toluene	1.0 µg/L	< 1.0	AO ≤ 24
Xylenes (total	2.0 µg/L	< 2.0	AO ≤ 20
Surrogate: Toluene-d8	70-130	86%	70-130
Surrogate : 4-Bromofluorobenzene	70-130	92%	70-130

AO: Aesthetic Objective
MAC: Maximum Acceptable Concentration as per Canadian Drinking Water Guidelines.

6.4 EXISTING SYSTEM REQUIRED PROJECTS

A complete analysis of the GEID system was carried out for identifying capital projects required. A brief discussion of each of the current system projects is included in this report.

6.5 MCKINLEY WATER TREATMENT UPGRADES

GEID has previously adopted a plan for upgrading the water quality at McKinley Reservoir. The plan included several phases to use water from Okanagan Lake and improve the treatment processes with the final objective of meeting the Interior Health requirements.

Phase 1 of the McKinley Water Treatment Upgrades has been completed, allowing water from Okanagan Lake to be delivered to McKinley Reservoir. The works included the installation of a new intake, pump station at Okanagan Lake and all the transmission main components to McKinley Reservoir.

Although water quality has significantly improved, there are still upgrades required to address existing system deficiencies. The McKinley Water Treatment Upgrades – Phase 2 has two main components:

• Installation of a UV Disinfection Facility;

• Installation of a raw water main by-passing McKinley Reservoir.

The main issue for the existing system is the compliance with Interior Health requirement of 2 water treatments. Currently the water is only treated with chlorine for its disinfection. Chlorine dosages currently applied are intended for 4-log removal of viruses and 3-log inactivation of Giardia. The recommended project for addressing this deficiency is the installation of an Ultraviolet (UV) Disinfection system for water distributed to the Glenmore System. The project was identified in previous capital plans and is currently in the detailed design phase with construction scheduled for 2015.

In the scope of the McKinley Water Treatment Upgrades – Phase 2, GEID has included the design and installation of a main by-passing McKinley Reservoir. The objective is to have the opportunity of using water directly from Okanagan Lake when the water quality at McKinley Reservoir is compromised.

Although this is a project that is required for the current users of the system, its implementation will also benefit future users. The cost of the project has been apportioned based on the maximum day demands and the anticipated installed capacity of the UV Facility, as confirmed by GEID at 79 MLD.

The proposed UV Disinfection facility will provide the required second treatment for water delivered to the Glenmore area, and will provide 3-log inactivation of Cryptosporidium and Giardia. McKinley Landing system users will have the option of being serviced with water treated at the new UV facility. Improvements required for the Ellison Area are identified later in this section.

6.6 ELLISON SEPARATION – PHASE 2

Water for the Ellison System originates at Kelowna/Mill Creek and Ellison Well. The area has a significant agricultural irrigation demand component estimated at 359.6 L/s (31.1 MLD) for the MDD. The domestic MDD is estimated at 13.4 L/s (1.2 MLD).

The Ellison System Separation has been previously identified as a required project to address the water quality issues in the Ellison area. The separation was planned in three phases with Phase 1 already completed.

The separation will allow implementing water treatment for the domestic water while maintaining the current level of treatment for the agricultural irrigation demands. GEID commissioned Hahn Engineering to complete a study on the options for the Ellison System Separation. GEID staff indicated that the remaining Ellison System Separation could be completed in two phases. GEID anticipates that Phase 2 will include the installation of a treatment facility at the Kelowna/Mill Creek source and the installation of small diameter mains for domestic water use supply. The treatment facility will meet the Interior Health water quality requirements for domestic water.

Simulations carried out with the updated water distribution model show that residual pressures at the west end of Ellison Valley are expected to be lower than minimum recommended for the peak consumption times. This deficiency shall be addressed during the detailed design of the system separation.

6.7 ELLISON SEPARATION – PHASE 3

Phase 3 of the Ellison separation involves the installation of small diameter mains for domestic water supply within PZ 495 and at least one PRV station for lowering the HGL from 542 to 495.

6.8 SCADA HMI UPGRADES

All sites with SCADA computers, except the main office, are running unsupported operational system (Windows XP) and old versions of the Lookout Development software. The sites that have a computer running Lookout are Airport Well, Arthur Court, Ellison Well, McKinley Chlorinator, Postill Booster Station, Quail Booster Station, Quail Reservoir, Tutt Pump Station, Union Road, Vector Well and Joe Bulach Pump Station.

Plans are in place to upgrade the SCADA system to an Ethernet based system, in phases throughout 2015 – 2020. The initial 'backbone' of the new Ethernet system will be installed with the new UV Facility, with other locations being upgraded as part of the annual budget on an ongoing basis.

6.9 MCKINLEY RESERVOIR TO SHAYLER RESERVOIR MAIN

The installation of a watermain for treated water supply to McKinley Beach and Shayler Reservoir is identified as Project 5 in GEID's Capital Plan. This project is driven by the development of the McKinley Beach subdivision but will bring benefits to the existing GEID users.

As mentioned in the description of the GEID system, McKinley Landing users have the option of connecting to water treated at the facilities downstream of McKinley Reservoir. If the users decide to do so, the watermain subject of this project will be one of two infrastructure components that will allow that connection to happen.

The existing users currently serviced by Shayler Reservoir will also benefit from this project, as Shayler Reservoir will be fed from water originating at McKinley Reservoir instead of the current temporary feed from Dewdney Pump Station.

Although this project will increase the capacity of the system and will benefit future users, the project will be mainly funded by the McKinley Beach developer. GEID will pay a portion of the cost due to benefits to existing users.

6.10 VECTOR WELL NO. 1 REHABILITATION

As indicated in the description of GEID water sources, Vector Well No. 1 was contaminated by bacteria growing as a result of increased aquifer temperature. The temperature increase was the result of using the aquifer as part of a geo-thermal system.

The use of the geo-thermal system has been discontinued and GEID wants to make use of the infrastructure installed at Vector Well No. 1. The equipment will have to be disinfected and the well rehabilitated for safe use as drinking water source.

6.11 AIRPORT WELL NO. 1 MAINTENANCE

A maintenance procedure consisting of removal of existing components in contact with water source for cleaning is required at Airport Well No. 1. In addition, the existing well casing requires swabbing and cleaning. The project will improve the water quality and will extend the life span of the existing assets. This project has no effect on CEC rates as it will be paid for by existing users.

6.12 AIRPORT WELL NO. 2 MAINTENANCE

Airport Well No. 2 maintenance procedures are required. The scope of the work is the same as described under item 6.11. The project will improve the water quality and will extend the life span of the existing assets. This project has no effect on CEC rates as it will be paid for by existing users.

In 2015, GEID continued to monitor its water supply with a Water Quality Sampling Program that was previously approved by IH in 2011. The monthly reports submitted to IH contain detailed information on sampling locations, sampling frequency, bacteriological testing results, chlorine residuals, operational activities, customer complaints and response, variances of normal operation and monthly laboratory results.

During 2016 GEID plans to develop a new Water Quality Monitoring Plan to monitor the better quality of water the Okanagan Lake pump station will provide to the Glenmore distribution system.

The goals of the sampling program are to:

- meet or exceed the minimum sampling frequency for microbiological parameters as outlined in GCDWQ objectives based on water system size
- update general water quality parameters such as dissolved iron and manganese on a periodic basis
- assess source water quality. This includes an assessment of reservoir lake conditions which will be completed by a consultant. The consultant

conducts ongoing sampling to identify microorganisms such as algae in the lakes, and nutrient conditions that could lead to a deterioration in water quality; and

- assess quality of water delivered to customers. This includes measurement of parameters that directly impact water quality, such as disinfection byproducts, and measurement for parameters that are indirectly related to water system maintenance.

GEID continued to work on improving the reliability of online instrumentation and real-time monitoring in 2016.

6.0 SYSTEM NOTABLE EVENTS

During a telephone conference on 1-May-14 with Wayne Radomski from Interior Health it was noted that the Glenmore Ellison Improvement District is no longer being held to a CT requirement for 3-log reduction of Giardia and we are not currently out of compliance if we are unable to maintain CT for a 3-log reduction of Giardia. GEID has been increasing their chlorine dosing in efforts to maintain 3-log reduction of Giardia.

On 6-Aug-15 GEID was advised by our aquatic biologist to treat McKinley reservoir with 2 pails (100 lbs.) of Copper Sulphate. An additional 2 pails were added on 9-Aug-15 to help control a Dinobryon bloom. Treatment was successful according to Heather Larratt who monitors McKinley reservoir on a weekly basis.

During the evening of 2-Sept-15 and morning of 3-Sept-15, 2015 a low chlorine event took place in the McKinley Landing distribution system. A low chlorine alarm was received by the on-call operator from the Arthur Court Reservoir which is set to alarm out at a residual below 0.5 mg/L free chlorine. After visual inspection of the Dewdney P/S it was discovered that the chlorine gas injection system was not operating while the pumps were operating. The operator immediately shut off the pumps to stop the water from travelling to the Arthur Court Reservoir. After visual inspection of the chlorine injection system and no evident problems found the operator put the injection system in manual mode and ran the pumps to test the system. The operator confirmed the system was injecting chlorine and let the pumps run for an additional 5 minutes. At this time the reservoir was full and the pumps were shut off and the system was returned to automatic mode which is controlled by a set point (reservoir level) at the Arthur Court Reservoir. The operator then physically went to the Arthur Court Reservoir and placed calcium hypochlorite pucks into each reservoir cell to raise the chlorine concentrations. At this time, it was noted that the free chlorine concentrations in the reservoir was 0.40 mg/L before the pucks were placed in each cell. The operator decided to wait until morning to report the incident to senior staff.

In the morning after review by senior staff and consultation with the Drinking Water Officer from Interior Health it was decided to not put the McKinley Landing distribution system on a water quality advisory and take the following steps to ensure the safety of the public:

- Review Total Coliform and E. coli history for distribution system to confirm bacterial results have not been an issue in the past.
- Take Total Coliform and E. coli bacterial tests from representable locations in the distribution system immediately.
- Flush at end of line locations to ensure chlorine residuals are present near 1.0 mg/L free chlorine.
- Investigation of Chlorine injection system by qualified instrument technician.
- Review of operator response requirements and operational protocol with all GEID on-call operators and update the GEID ERP with emergency response procedures to Cl_2 alarms.
  Due to the consistently high-water quality, low turbidity, continual presence of chlorine residual in the system, the risk to the public was low and no further actions were taken. All Bacterial tests returned <1 Total Coliforms and <1 E. coli.

On 21-Sept-15 with the recommendations from GEID'S biologist, a 100-kg dose of Copper Sulphate was administered to McKinley Reservoir to help control a late summer algae bloom.

On 9-Oct-15 and 30-Oct-15 with the recommendations from GEID'S biologist, two separate 150 kg doses of Copper Sulphate was administered to McKinley Reservoir to help control algae blooms.

On 5-Nov-15 November 5th and 25th, 2015 on the recommendations from GEID'S biologist, two separate 150 kg doses of Copper Sulphate was administered to McKinley Reservoir to help control algae blooms.

7.0 UPDATES TO EMERGENCY RESPONSE PLAN

The emergency response plan is updated bi-annually, and copies of the updated plan were provided to IH in January 2013. Updates include changes to contact numbers (including GEID staff, consultants, contractors and regulatory agencies), as well as changes to the plans that may be required including the addition of new facilities. The ERP will be updated in 2015 to include the new Okanagan Lake Pump Station. Please find updates to ERP attached.

8.0 UPDATES TO CROSS-CONNECTION CONTROL PROGRAM

The cross-connection control program for GEID and the Kelowna Joint Water Committee is administered by the City of Kelowna and results are reported annually to IH. The testing and registration devices for backflow prevention is tracked by the City of Kelowna using a dedicated software package, and utilities are provided a list of customers by the KJWC which confirms that the annual testing has been completed for all customers. Customers with backflow prevention assemblies are required to maintain and test their devices annually for proper operation.

9.0 CROSS CONNECTION CONTROL PROGRAM RESULTS

Central Data Registry Budget 2015

4th Quarter (January 1, 2015 to December 31, 2015)

Chart 6.0 – Cross Connection Control Program Results

Revenue	**YTD Actual**	**Budget 2014**	**Balance (-) +**
City of Kelowna	$32,348.64	$38,934.24	$6,585.60
RWW	$4,141.33	$5,035.21	$893.88
BMID	$9,090.22	$10,610.87	$1,520.65
SEKID	$833.92	$1,108.22	$274.30
GEID	$6,845.01	$8,262.56	$1,417.55
Contingency @ 5%	$2,662.94	$3,197.54	$534.60
TOTAL	$55,922.06	$67,148.64	$11,226.58
Expenses			
Postage	$1,543.50	$1,928.50	$385.00
Stationary	$571.08	$713.55	$142.47
Labour	$36,276.13	$43,485.67	$7,209.54
overhead	$14,868.41	$17,823.38	$2,954.97
Contingency @5%	$2,662.94	$3,197.54	$534.60
TOTAL	$55,922.06	$67,148.64	$11,226.58

Notes:

- This report represents the cost of managing the “Central Data Registry” only. It does not include expenses incurred on such things as public relations that may benefit KJWC members.
- This YTD calculation is up to the end of Q3 only.
- Multiplication factors were calculated using historical averages. 2.3 installs / facility 1.8 facilities / customer and number of actual installs = projected activity as provided by each district.
- **Line items were calculated as follows:**

  Postage $1.00 x# customers x 1.75

  Stationary$0.37 x # customers x 1.75

  Labour $25.74 x 0.37 x # of tests

  Overhead $10.55 x 0.37 x # of tests

11.0 EOCP UPDATES

GEID's water distribution system is classified as a Level IV by the Environmental Operators Certification Program (EOCP).

Water system operators are the first line of defense for water quality issues, as they identify, manage, and remedy risks to the water supply. The tasks completed by GEID's operators are essential in ensuring safe, reliable, water supply, including:

- Daily system checks of critical infrastructure such as pump stations and chlorinators
- Daily monitoring of SCADA system to assess system performance
- Response to system alarms 24 hours a day, seven days a week
- Water main flushing twice a year to enhance water quality
- Completion of water system maintenance, repair and renewal works
- Instrument testing and calibration
- Watershed monitoring and protection

In addition to the operation of the water system, water quality sampling was also completed in 2015 by qualified operators. Five of the 8 operators are graduates of Okanagan College's Water Quality and Environmental Engineering Technology program. The two-year Water Quality diploma program is designed for the water and wastewater industry, and provides instruction in areas such as water system design, maintenance, water treatment, and water quality testing and analysis.

As of year-end 2015, GEID had the following certified water distribution operators:

Table 7.0 - Current Operators

Name	Certification Level	Position
Drew Allingham	Operator Level 4	Works Foreman
Mike Rojem	Operator Level 3	Projects Coordinator
Brandon Fletcher	Operator Level 3	Lead Hand
Kelvin Giesbrecht	Operator Level 2	System Operator
Ernie Schmidt	Operator Level 2	System Operator (Part Time)
Daniel King	Operator Level 2	System Operator
Chris Mackay	Operator Level 1	System Operator
Shawn McGaw	Operator Level 1	System Operator
Andrew Cammell	Operator Level 1	Water Quality Technician

At this time, Mr. Mike Rojem and Mr. Brandon Fletcher continue to earn CEU's and the direct supervision time necessary to obtain their Level 4 certification.

APPENDIX A
WATER QUALITY RESULTS
Attached

CERTIFICATE OF ANALYSIS

REPORTED TO	Glenmore Ellison Improvement District 445 Glenmore Road KELOWNA,, BC V1V 1Z6	**TEL** **FAX**	(250) 763-6506 (250) 763-5688
ATTENTION	Andrew Cammell	**WORK ORDER**	4031600
PO NUMBER		**RECEIVED / TEMP**	Mar-31-14 11:54 / NA
PROJECT	Drinking Water	**REPORTED**	Apr-01-14
PROJECT INFO		**COC NUMBER**	05659 & 05654

General Comments:

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.

J Shanko

Issued By: **Jennifer Shanko, AScT**
Administration Coordinator

Please contact CARO if more information is needed or to provide feedback on our services.

Locations:

#110 4011 Viking Way
Richmond, BC V6V 2K9
Tel: 604-279-1499 Fax: 604-279-1599

#102 3677 Highway 97N
Kelowna, BC V1X 5C3
Tel: 250-765-9646 Fax: 250-765-3893

17225 109 Avenue
Edmonton, AB T5S 1H7
Tel: 780-489-9100 Fax: 780-489-9700

www.caro.ca

CARO ANALYTICAL SERVICES

ANALYSIS INFORMATION

REPORTED TO	Glenmore Ellison Improvement District	**WORK ORDER**	4031600
PROJECT	Drinking Water	**REPORTED**	Apr-01-14

Analysis Description	Method Reference (* = modified from) Preparation	Analysis	Location
Bacterial Identification	N/A	API 20E	Kelowna

Note: The numbers in brackets represent the year that the method was published/approved

Method Reference Descriptions:

API — Other-Please Contact CARO

Glossary of Terms:

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
AO	Aesthetic objective
MAC	Maximum acceptable concentration (health-related guideline)
-	No Description

CARO ANALYTICAL SERVICES

SAMPLE ANALYTICAL DATA

REPORTED TO Glenmore Ellison Improvement District
PROJECT Drinking Water

WORK ORDER 4031600
REPORTED Apr-01-14

Analyte	Result / *Recovery*	Canadian DWQ Guideline	MRL / *Limit*	Units	Prepared	Analyzed	Notes
Microbiological Parameters							
Sample ID: McKinley Res. Treated (WT#3337) (4031600-01) [Water] Sampled: Mar-25-14 07:09							
Aeromonas hydrophila	**Detected**	No Guideline			N/A	Apr-01-14	

CERTIFICATE OF ANALYSIS

REPORTED TO	Glenmore Ellison Improvement District 445 Glenmore Road KELOWNA,, BC V1V 1Z6	**TEL** **FAX**	(250) 763-6506 (250) 763-5688
ATTENTION	Andrew Cammell	**WORK ORDER**	4051442
PO NUMBER		**RECEIVED / TEMP**	May-26-14 12:28 / NA
PROJECT	Drinking Water	**REPORTED**	May-26-14
PROJECT INFO		**COC NUMBER**	B 20264

General Comments:

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

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Issued By: **Jennifer Shanko, AScT**
Administration Coordinator

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Locations:

#110 4011 Viking Way
Richmond, BC V6V 2K9
Tel: 604-279-1499 Fax: 604-279-1599

#102 3677 Highway 97N
Kelowna, BC V1X 5C3
Tel: 250-765-9646 Fax: 250-765-3893

17225 109 Avenue
Edmonton, AB T5S 1H7
Tel: 780-489-9100 Fax: 780-489-9700

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ANALYSIS INFORMATION

REPORTED TO	Glenmore Ellison Improvement District	**WORK ORDER**	4051442
PROJECT	Drinking Water	**REPORTED**	May-26-14

Analysis Description	**Method Reference** (* = modified from) **Preparation**	 **Analysis**	**Location**
Bacterial Identification	N/A	API 20E	Kelowna

Note: The numbers in brackets represent the year that the method was published/approved

Method Reference Descriptions:

API	Other-Please Contact CARO

Glossary of Terms:

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
AO	Aesthetic objective
MAC	Maximum acceptable concentration (health-related guideline)
-	No Description

SAMPLE ANALYTICAL DATA

REPORTED TO Glenmore Ellison Improvement District
PROJECT Drinking Water

WORK ORDER 4051442
REPORTED May-26-14

Analyte	Result / *Recovery*	Canadian DWQ Guideline	MRL / *Limit*	Units	Prepared	Analyzed	Notes
Microbiological Parameters							
Sample ID: WT# 3337 - McKinley Res. Treated (4051442-01) [Water] Sampled: May-20-14 08:16							
Aeromonas hydrophila	**Detected**	No Guideline		-	N/A	May-26-14	

CERTIFICATE OF ANALYSIS

CARO ANALYTICAL SERVICES

REPORTED TO	Glenmore Ellison Improvement District 445 Glenmore Road KELOWNA,, BC V1V 1Z6	**TEL** **FAX**	(250) 763-6506 (250) 763-5688
ATTENTION	Andrew Cammell	**WORK ORDER**	4070837
PO NUMBER		**RECEIVED / TEMP**	Jul-14-14 10:19 / NA
PROJECT	Drinking Water	**REPORTED**	Jul-15-14
PROJECT INFO		**COC NUMBER**	B 20226

General Comments:

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

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Issued By: JShanko

Jennifer Shanko, AScT
Administration Coordinator

Please contact CARO if more information is needed or to provide feedback on our services.

ANALYSIS INFORMATION

REPORTED TO	Glenmore Ellison Improvement District	**WORK ORDER**	4070837
PROJECT	Drinking Water	**REPORTED**	Jul-15-14

Analysis Description	Method Reference (* = modified from) Preparation	Analysis	Location
Bacterial Identification	N/A	API 20E	Kelowna

Note: The numbers in brackets represent the year that the method was published/approved

Method Reference Descriptions:

API	Other-Please Contact CARO

Glossary of Terms:

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
AO	Aesthetic objective
MAC	Maximum acceptable concentration (health-related guideline)
-	No Description

SAMPLE ANALYTICAL DATA

REPORTED TO	Glenmore Ellison Improvement District	**WORK ORDER**	4070837
PROJECT	Drinking Water	**REPORTED**	Jul-15-14

Analyte	Result / *Recovery*	Canadian DWQ Guideline	MRL / *Limit*	Units	Prepared	Analyzed	Notes
Microbiological Parameters							
Sample ID: WT# 3362 - Union Road Pre Res. (4070837-01) [Water] Sampled: Jul-08-14 07:48							
Yersinia enterocolitica	**Detected**	No Guideline		-	N/A	Jul-15-14	
Sample ID: WT# 3337 - McKinley Res. Treated (4070837-02) [Water] Sampled: Jul-08-14 09:15							
Yersinia enterocolitica	**Detected**	No Guideline		-	N/A	Jul-15-14	

CERTIFICATE OF ANALYSIS

REPORTED TO	Glenmore Ellison Improvement District 445 Glenmore Road KELOWNA,, BC V1V 1Z6	**TEL** **FAX**	(250) 763-6506 (250) 763-5688
ATTENTION	Andrew Cammell	**WORK ORDER**	4091019
PO NUMBER		**RECEIVED / TEMP**	Sep-15-14 11:57 / NA
PROJECT	Drinking Water	**REPORTED**	Sep-19-14
PROJECT INFO		**COC NUMBER**	B 20247

General Comments:

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.

Issued By: **Jennifer Shanko, AScT**
Administration Coordinator

Please contact CARO if more information is needed or to provide feedback on our services.

ANALYSIS INFORMATION

REPORTED TO	Glenmore Ellison Improvement District	**WORK ORDER**	4091019
PROJECT	Drinking Water	**REPORTED**	Sep-19-14

Analysis Description	Method Reference	Technique	Location
Bacterial Identification	API 20E	Non-fastidious gram negative bacteria identification	Kelowna

Method Reference Descriptions:

Glossary of Terms:

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences

Standards / Guidelines Referenced in this Report:

Guidelines for Canadian Drinking Water Quality (2012)

Website: http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/2012-sum_guide-res_recom/index-eng.php

Note: In some cases, the values displayed on the report represent the lowest guideline and are to be verified by the end user

SAMPLE ANALYTICAL DATA

REPORTED TO Glenmore Ellison Improvement District
PROJECT Drinking Water

WORK ORDER 4091019
REPORTED Sep-19-14

Analyte	Result / *Recovery*	Standard / Guideline	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: WT# 3337 - McKinley Res. Treated (4091019-01) [Water] Sampled: Sep-09-14 08:39							
Microbiological Parameters							
Pleisomonas shigelloides	**Detected**	N/A	1		N/A	Sep-18-14	

CERTIFICATE OF ANALYSIS

REPORTED TO	Glenmore Ellison Improvement District 445 Glenmore Road KELOWNA,, BC V1V 1Z6	**TEL** **FAX**	(250) 763-6506 (250) 763-5688
ATTENTION	Andrew Cammell	**WORK ORDER**	4110023
PO NUMBER		**RECEIVED / TEMP**	Nov-03-14 11:58 / 14°C
PROJECT	Drinking Water	**REPORTED**	Nov-07-14
PROJECT INFO	Retest	**COC NUMBER**	B16037

General Comments:

CARO Analytical Services employs methods which are conducted according to procedures accepted by appropriate regulatory agencies, and/or are conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts, except where otherwise agreed to by the client.

The results in this report apply to the samples analyzed in accordance with the Chain of Custody or Sample Requisition document. This analytical report must be reproduced in its entirety. CARO is not responsible for any loss or damage resulting directly or indirectly from error or omission in the conduct of testing. Liability is limited to the cost of analysis. Samples will be disposed of 30 days after the test report has been issued unless otherwise agreed to in writing.

Issued By: **Jennifer Shanko, AScT**
Administration Coordinator

Please contact CARO if more information is needed or to provide feedback on our services.

Locations:

#110 4011 Viking Way
Richmond, BC V6V 2K9
Tel: 604-279-1499 Fax: 604-279-1599

#102 3677 Highway 97N
Kelowna, BC V1X 5C3
Tel: 250-765-9646 Fax: 250-765-3893

17225 109 Avenue
Edmonton, AB T5S 1H7
Tel: 780-489-9100 Fax: 780-489-9700

www.caro.ca

ANALYSIS INFORMATION

REPORTED TO	Glenmore Ellison Improvement District	**WORK ORDER**	4110023
PROJECT	Drinking Water	**REPORTED**	Nov-07-14

Analysis Description	Method Reference	Technique	Location
Bacterial Identification	API 20E	Non-fastidious gram negative bacteria identification	Kelowna
E. coli (CCA)	APHA 9222 *	Membrane Filtration	Kelowna
Total Coliforms (CCA)	APHA 9222 *	Membrane Filtration	Kelowna

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Method Reference Descriptions:

APHA	Standard Methods for the Examination of Water and Wastewater, 22nd Edition, American Public Health Association/American Water Works Association/Water Environment Federation

Glossary of Terms:

MRL	Method Reporting Limit
<	Less than the Reported Detection Limit (RDL) - the RDL may be higher than the MRL due to various factors such as dilutions, limited sample volume, high moisture, or interferences
AO	Aesthetic objective
MAC	Maximum acceptable concentration (health based)
OG	Operational guideline (treated water)
CFU/100 mL	Colony Forming Units per 100 millilitres

Standards / Guidelines Referenced in this Report:

Guidelines for Canadian Drinking Water Quality (Oct 2014)

Website: http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/2012-sum_guide-res_recom/index-eng.php

Note: In some cases, the values displayed on the report represent the lowest guideline and are to be verified by the end user

CARO ANALYTICAL SERVICES

SAMPLE ANALYTICAL DATA

REPORTED TO	Glenmore Ellison Improvement District	**WORK ORDER**	4110023
PROJECT	Drinking Water	**REPORTED**	Nov-07-14

Analyte	Result / *Recovery*	Standard / Guideline	MRL / *Limits*	Units	Prepared	Analyzed	Notes
Sample ID: WT# 3337 - McKinley Res. Treated (4110023-01) [Water] Sampled: Nov-03-14 11:40							
Microbiological Parameters							
Coliforms, Total	**1**	MAC = None Detected	1	CFU/100 mL	Nov-03-14	Nov-04-14	
E. coli	< 1	MAC = None Detected	1	CFU/100 mL	Nov-03-14	Nov-04-14	
Yersinia enterocolitica	**Detected**	N/A	1	-	Nov-06-14	Nov-06-14	

Facility:	McKinley Reservoir; McKinley Reservoir Chlorinator - RAW & TREATED
Sampling Point:	McKinley Reservoir - RAW WATER (5-1-SR, 3336)

Color (apparent)		Criteria	
*** 01/06/2015 09:07**	**29 ACU**	**<=15**	**User-Defined**
*** 01/07/2015 11:25**	**28 ACU**	**<=15**	**User-Defined**
*** 01/09/2015 09:30**	**24 ACU**	**<=15**	**User-Defined**
*** 01/13/2015 08:37**	**21 ACU**	**<=15**	**User-Defined**
*** 01/15/2015 09:15**	**25 ACU**	**<=15**	**User-Defined**
*** 01/19/2015 09:30**	**26 ACU**	**<=15**	**User-Defined**
01/20/2015 08:30	15 ACU	<=15	User-Defined
*** 01/21/2015 09:50**	**21 ACU**	**<=15**	**User-Defined**
02/02/2015 08:55	9 ACU	<=15	User-Defined
*** 02/03/2015 09:08**	**26 ACU**	**<=15**	**User-Defined**
*** 02/05/2015 09:40**	**19 ACU**	**<=15**	**User-Defined**
*** 02/06/2015 09:20**	**22 ACU**	**<=15**	**User-Defined**
*** 02/13/2015 09:55**	**17 ACU**	**<=15**	**User-Defined**
*** 02/16/2015 08:53**	**33 ACU**	**<=15**	**User-Defined**
*** 02/17/2015 14:15**	**30 ACU**	**<=15**	**User-Defined**
*** 02/18/2015 09:00**	**16 ACU**	**<=15**	**User-Defined**
*** 02/23/2015 10:20**	**22 ACU**	**<=15**	**User-Defined**
*** 02/24/2015 09:20**	**23 ACU**	**<=15**	**User-Defined**
*** 03/03/2015 08:52**	**34 ACU**	**<=15**	**User-Defined**
*** 03/10/2015 08:51**	**18 ACU**	**<=15**	**User-Defined**

Color (apparent)		Criteria	
*** 03/16/2015 08:41**	**19 ACU**	**<=15**	**User-Defined**
03/24/2015 08:28	10 ACU	<=15	User-Defined
*** 03/31/2015 08:45**	**25 ACU**	**<=15**	**User-Defined**
*** 04/07/2015 11:00**	**18 ACU**	**<=15**	**User-Defined**
*** 04/14/2015 09:15**	**19 ACU**	**<=15**	**User-Defined**
04/21/2015 08:44	14 ACU	<=15	User-Defined
*** 04/27/2015 08:58**	**24 ACU**	**<=15**	**User-Defined**
05/05/2015 09:10	8 ACU	<=15	User-Defined
05/12/2015 08:48	9 ACU	<=15	User-Defined
05/19/2015 09:24	14 ACU	<=15	User-Defined
*** 05/26/2015 08:51**	**17 ACU**	**<=15**	**User-Defined**
*** 06/09/2015 08:32**	**16 ACU**	**<=15**	**User-Defined**
06/16/2015 09:00	12 ACU	<=15	User-Defined
*** 06/22/2015 08:29**	**22 ACU**	**<=15**	**User-Defined**
07/07/2015 08:57	9 ACU	<=15	User-Defined
*** 07/14/2015 09:03**	**27 ACU**	**<=15**	**User-Defined**
*** 07/21/2015 08:44**	**21 ACU**	**<=15**	**User-Defined**
*** 07/27/2015 09:35**	**21 ACU**	**<=15**	**User-Defined**
*** 08/02/2015 08:57**	**16 ACU**	**<=15**	**User-Defined**
*** 08/03/2015 08:52**	**17 ACU**	**<=15**	**User-Defined**
*** 08/11/2015 09:21**	**18 ACU**	**<=15**	**User-Defined**
*** 08/18/2015 08:47**	**17 ACU**	**<=15**	**User-Defined**
*** 08/25/2015 08:30**	**28 ACU**	**<=15**	**User-Defined**
*** 09/08/2015 09:26**	**27 ACU**	**<=15**	**User-Defined**

Color (apparent)		Criteria	
* 09/15/2015 08:48	21 ACU	<=15	User-Defined
* 09/29/2015 08:48	33 ACU	<=15	User-Defined
* 10/01/2015 09:30	23 ACU	<=15	User-Defined
* 10/06/2015 09:05	21 ACU	<=15	User-Defined
* 10/13/2015 08:58	27 ACU	<=15	User-Defined
* 10/19/2015 09:51	31 ACU	<=15	User-Defined
* 11/10/2015 09:08	38 ACU	<=15	User-Defined
* 11/16/2015 11:11	34 ACU	<=15	User-Defined
* 11/23/2015 09:29	35 ACU	<=15	User-Defined
* 11/30/2015 09:17	34 ACU	<=15	User-Defined
* 12/07/2015 09:42	45 ACU	<=15	User-Defined
* 12/14/2015 10:21	41 ACU	<=15	User-Defined
* 12/21/2015 09:10	32 ACU	<=15	User-Defined
* 12/29/2015 08:20	38 ACU	<=15	User-Defined

# samples:	58	**min:**	8 ACU
# detects:	58	**max:**	45 ACU
# non-detects:	0	**avg:**	23.086 ACU (based on 58 numerical results)
# of Exceedences:	49		

Escherichia coli / E. coli (counts)		Criteria	
01/06/2015 09:07	< 1 counts/100mL	<=0, P	Microbiological Standard
01/13/2015 08:37	< 1 counts/100mL	<=0, P	Microbiological Standard
01/20/2015 08:30	< 1 counts/100mL	<=0, P	Microbiological Standard
01/27/2015 10:10	ND counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		Criteria	
02/03/2015 09:08	< 1 counts/100mL	<=0, P	Microbiological Standard
02/10/2015 08:12	< 1 counts/100mL	<=0, P	Microbiological Standard
02/16/2015 08:53	< 1 counts/100mL	<=0, P	Microbiological Standard
02/24/2015 11:11	< 1 counts/100mL	<=0, P	Microbiological Standard
03/03/2015 08:53	< 1 counts/100mL	<=0, P	Microbiological Standard
03/10/2015 08:51	< 1 counts/100mL	<=0, P	Microbiological Standard
03/16/2015 08:41	< 1 counts/100mL	<=0, P	Microbiological Standard
*** 03/24/2015 08:28**	**1 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 03/31/2015 08:45**	**12 counts/100mL**	**<=0, P**	**Microbiological Standard**
04/07/2015 11:10	< 1 counts/100mL	<=0, P	Microbiological Standard
04/14/2015 09:15	< 1 counts/100mL	<=0, P	Microbiological Standard
04/27/2015 08:58	< 1 counts/100mL	<=0, P	Microbiological Standard
05/05/2015 09:10	< 1 counts/100mL	<=0, P	Microbiological Standard
05/12/2015 08:48	< 1 counts/100mL	<=0, P	Microbiological Standard
*** 05/19/2015 09:24**	**2 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 05/26/2015 08:57**	**1 counts/100mL**	**<=0, P**	**Microbiological Standard**
06/02/2015 08:41	< 1 counts/100mL	<=0, P	Microbiological Standard
06/09/2015 08:32	< 1 counts/100mL	<=0, P	Microbiological Standard
*** 06/16/2015 09:00**	**2 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 06/22/2015 08:31**	**2 counts/100mL**	**<=0, P**	**Microbiological Standard**
06/30/2015 09:25	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		Criteria	
*** 07/07/2015 08:54**	**1 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 07/14/2015 09:03**	**1 counts/100mL**	**<=0, P**	**Microbiological Standard**
07/21/2015 08:45	< 1 counts/100mL	<=0, P	Microbiological Standard
*** 07/27/2015 09:35**	**2 counts/100mL**	**<=0, P**	**Microbiological Standard**
08/04/2015 08:49	< 1 counts/100mL	<=0, P	Microbiological Standard
08/11/2015 09:21	< 1 counts/100mL	<=0, P	Microbiological Standard
08/18/2015 08:47	< 1 counts/100mL	<=0, P	Microbiological Standard
*** 08/25/2015 08:05**	**1 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 09/01/2015 09:10**	**16 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 09/08/2015 09:24**	**1 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 09/15/2015 08:48**	**4 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 09/21/2015 09:05**	**2 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 09/29/2015 08:55**	**3 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 10/06/2015 09:10**	**1 counts/100mL**	**<=0, P**	**Microbiological Standard**
10/13/2015 08:58	< 1 counts/100mL	<=0, P	Microbiological Standard
*** 10/19/2015 09:51**	**4 counts/100mL**	**<=0, P**	**Microbiological Standard**
10/27/2015 10:00	< 1 counts/100mL	<=0, P	Microbiological Standard
11/03/2015 09:55	< 1 counts/100mL	<=0, P	Microbiological Standard
11/10/2015 09:08	< 1 counts/100mL	<=0, P	Microbiological Standard
11/16/2015 11:11	< 1 counts/100mL	<=0, P	Microbiological Standard
11/23/2015 09:29	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		**Criteria**	
*** 11/30/2015 09:20**	**1 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 12/07/2015 09:43**	**1 counts/100mL**	**<=0, P**	**Microbiological Standard**
12/14/2015 10:21	< 1 counts/100mL	<=0, P	Microbiological Standard
12/21/2015 09:12	< 1 counts/100mL	<=0, P	Microbiological Standard
12/29/2015 08:20	< 1 counts/100mL	<=0, P	Microbiological Standard

# samples:	51	**min:**	< 1 counts/100mL
# detects:	19	**max:**	16 counts/100mL
# non-detects:	32	**Geometric Mean:**	1.940 counts/100mL (based on 19 numerical results)
# of Exceedences:	19		

pH		**Criteria**
01/06/2015 09:07	8.08	
01/13/2015 08:37	8.00	
01/20/2015 08:30	8.04	
02/03/2015 09:08	8.04	
02/16/2015 08:53	7.34	
02/24/2015 09:20	7.97	
03/03/2015 08:52	7.88	
03/10/2015 08:51	8.15	
03/16/2015 08:41	7.99	
03/24/2015 08:28	7.71	
03/31/2015 08:45	8.02	
04/14/2015 09:15	7.81	
04/21/2015 08:44	8.06	
04/27/2015 08:58	7.97	
05/05/2015 09:10	8.21	
05/12/2015 08:48	8.24	
05/19/2015 09:24	8.19	
05/26/2015 08:51	8.32	
06/09/2015 08:32	8.32	
06/16/2015 09:00	8.38	
06/22/2015 08:29	8.41	
06/30/2015 09:24	8.38	
07/07/2015 08:57	8.42	
07/14/2015 09:03	8.36	

pH		Criteria	
07/21/2015 08:44	8.32		
07/27/2015 09:35	8.24		
08/02/2015 08:57	8.29		
08/03/2015 08:52	8.2		
08/11/2015 09:21	8.36		
08/18/2015 08:47	8.30		
08/25/2015 08:30	8.34		
09/08/2015 09:26	8.14		
09/15/2015 08:48	8.11		
09/21/2015 09:05	8.08		
09/29/2015 08:48	8.06		
10/06/2015 09:05	8.05		
10/13/2015 08:58	8.00		
10/19/2015 09:51	8.00		
10/27/2015 10:00	8.07		
11/03/2015 09:50	8.13		
11/10/2015 09:08	8.07		
11/23/2015 09:29	8.10		
11/30/2015 09:17	8.02		
12/07/2015 09:42	8.06		
12/14/2015 10:21	8.05		
12/21/2015 09:10	7.99		
12/29/2015 08:20	7.89		

# samples:	47	**min:**	7.34
# detects:	47	**max:**	8.42
# non-detects:	0	**avg:**	8.110 (based on 47 numerical results)
# of Exceedences:	0		

Total Coliforms (counts)		Criteria	
01/06/2015 09:07	> 3 counts/100mL	<=10	User-Defined
*** 01/13/2015 08:37**	**14 counts/100mL**	**<=10**	**User-Defined**
01/20/2015 08:30	1 counts/100mL	<=10	User-Defined
01/27/2015 10:10	> 3 counts/100mL	<=10	User-Defined
02/03/2015 09:08	7 counts/100mL	<=10	User-Defined
02/10/2015 08:12	> 1 counts/100mL	<=10	User-Defined
02/16/2015 08:53	< 1 counts/100mL	<=10	User-Defined
02/24/2015 11:11	> 1 counts/100mL	<=10	User-Defined
03/03/2015 08:53	> 3 counts/100mL	<=10	User-Defined

Total Coliforms (counts)		Criteria	
03/10/2015 08:51	> 1 counts/100mL	<=10	User-Defined
03/16/2015 08:41	> 5 counts/100mL	<=10	User-Defined
03/24/2015 08:28	2 counts/100mL	<=10	User-Defined
*** 03/31/2015 08:45**	**> 12 counts/100mL**	**<=10**	**User-Defined**
04/07/2015 11:10	> 2 counts/100mL	<=10	User-Defined
*** 04/14/2015 09:15**	**> 12 counts/100mL**	**<=10**	**User-Defined**
04/27/2015 08:58	< 1 counts/100mL	<=10	User-Defined
05/05/2015 09:10	> 5 counts/100mL	<=10	User-Defined
05/12/2015 08:48	< 1 counts/100mL	<=10	User-Defined
05/19/2015 09:24	> 4 counts/100mL	<=10	User-Defined
05/26/2015 08:57	> 6 counts/100mL	<=10	User-Defined
06/02/2015 08:41	> 2 counts/100mL	<=10	User-Defined
06/09/2015 08:32	< 1 counts/100mL	<=10	User-Defined
06/16/2015 09:00	> 4 counts/100mL	<=10	User-Defined
06/22/2015 08:31	> 6 counts/100mL	<=10	User-Defined
*** 06/30/2015 09:25**	**15 counts/100mL**	**<=10**	**User-Defined**
*** 07/07/2015 08:54**	**> 25 counts/100mL**	**<=10**	**User-Defined**
07/14/2015 09:03	1 counts/100mL	<=10	User-Defined
07/21/2015 08:45	> 6 counts/100mL	<=10	User-Defined
*** 07/27/2015 09:35**	**140 counts/100mL**	**<=10**	**User-Defined**
08/04/2015 08:49	> 2 counts/100mL	<=10	User-Defined
*** 08/11/2015 09:21**	**140 counts/100mL**	**<=10**	**User-Defined**
*** 08/18/2015 08:47**	**110 counts/100mL**	**<=10**	**User-Defined**
*** 08/25/2015 08:05**	**> 15 counts/100mL**	**<=10**	**User-Defined**
*** 09/01/2015 09:10**	**> 16 counts/100mL**	**<=10**	**User-Defined**
*** 09/08/2015 09:24**	**29 counts/100mL**	**<=10**	**User-Defined**
*** 09/15/2015 08:48**	**> 13 counts/100mL**	**<=10**	**User-Defined**
09/21/2015 09:05	8 counts/100mL	<=10	User-Defined
*** 09/29/2015 08:55**	**35 counts/100mL**	**<=10**	**User-Defined**

Total Coliforms (counts)		**Criteria**	
10/06/2015 09:10	5 counts/100mL	<=10	User-Defined
10/13/2015 08:58	2 counts/100mL	<=10	User-Defined
10/19/2015 09:51	4 counts/100mL	<=10	User-Defined
*** 10/27/2015 10:00**	**> 58 counts/100mL**	**<=10**	**User-Defined**
*** 11/03/2015 09:55**	**39 counts/100mL**	**<=10**	**User-Defined**
11/10/2015 09:08	> 2 counts/100mL	<=10	User-Defined
11/16/2015 11:11	> 2 counts/100mL	<=10	User-Defined
*** 11/23/2015 09:29**	**15 counts/100mL**	**<=10**	**User-Defined**
11/30/2015 09:20	> 1 counts/100mL	<=10	User-Defined
12/07/2015 09:43	> 1 counts/100mL	<=10	User-Defined
12/14/2015 10:21	> 1 counts/100mL	<=10	User-Defined
12/21/2015 09:12	> 1 counts/100mL	<=10	User-Defined
12/29/2015 08:20	> 2 counts/100mL	<=10	User-Defined

# samples:	51	**min:**	< 1 counts/100mL
# detects:	47	**max:**	140 counts/100mL
# non-detects:	4	**Geometric Mean:**	11.576 counts/100mL (based on 17 numerical results)
# of Exceedences:	16		

Turbidity		**Criteria**	
01/06/2015 09:07	1.17 NTU	<=5	User-Defined
01/07/2015 11:25	1.16 NTU	<=5	User-Defined
01/09/2015 09:30	1.30 NTU	<=5	User-Defined
01/13/2015 08:37	0.97 NTU	<=5	User-Defined
01/15/2015 09:15	0.91 NTU	<=5	User-Defined
01/19/2015 09:30	1.08 NTU	<=5	User-Defined
01/20/2015 08:30	0.94 NTU	<=5	User-Defined
01/21/2015 09:50	1.00 NTU	<=5	User-Defined
01/22/2015 09:09	1.15 NTU	<=5	User-Defined
02/02/2015 08:55	1.01 NTU	<=5	User-Defined
02/03/2015 09:08	1.00 NTU	<=5	User-Defined
02/05/2015 09:40	1.11 NTU	<=5	User-Defined
02/06/2015 09:20	0.95 NTU	<=5	User-Defined
02/13/2015 09:55	0.98 NTU	<=5	User-Defined
02/16/2015 08:53	0.99 NTU	<=5	User-Defined
02/17/2015 14:15	1.05 NTU	<=5	User-Defined
02/18/2015 09:00	0.95 NTU	<=5	User-Defined

Turbidity		Criteria	
02/23/2015 10:20	1.11 NTU	<=5	User-Defined
02/24/2015 09:20	1.10 NTU	<=5	User-Defined
03/03/2015 08:52	1.04 NTU	<=5	User-Defined
03/10/2015 08:51	0.99 NTU	<=5	User-Defined
03/16/2015 08:41	1.13 NTU	<=5	User-Defined
03/24/2015 08:28	0.90 NTU	<=5	User-Defined
03/31/2015 08:45	0.81 NTU	<=5	User-Defined
04/07/2015 11:00	0.96 NTU	<=5	User-Defined
04/14/2015 09:15	0.75 NTU	<=5	User-Defined
04/21/2015 08:44	0.54 NTU	<=5	User-Defined
04/27/2015 08:58	0.76 NTU	<=5	User-Defined
05/05/2015 09:10	0.78 NTU	<=5	User-Defined
05/12/2015 08:48	0.79 NTU	<=5	User-Defined
05/19/2015 09:24	0.92 NTU	<=5	User-Defined
05/26/2015 08:51	0.91 NTU	<=5	User-Defined
06/09/2015 08:32	0.76 NTU	<=5	User-Defined
06/16/2015 09:00	0.83 NTU	<=5	User-Defined
06/22/2015 08:29	0.81 NTU	<=5	User-Defined
07/07/2015 08:57	1.00 NTU	<=5	User-Defined
07/14/2015 09:03	0.99 NTU	<=5	User-Defined
07/21/2015 08:44	0.62 NTU	<=5	User-Defined
07/27/2015 09:35	0.89 NTU	<=5	User-Defined
08/02/2015 08:57	0.92 NTU	<=5	User-Defined
08/03/2015 08:52	1.00 NTU	<=5	User-Defined
08/11/2015 09:21	0.61 NTU	<=5	User-Defined
08/18/2015 08:47	0.81 NTU	<=5	User-Defined
08/25/2015 08:30	1.01 NTU	<=5	User-Defined
09/08/2015 09:26	1.20 NTU	<=5	User-Defined
09/15/2015 08:48	1.21 NTU	<=5	User-Defined
09/29/2015 08:48	1.32 NTU	<=5	User-Defined
10/01/2015 09:30	0.92 NTU	<=5	User-Defined
10/06/2015 09:05	0.79 NTU	<=5	User-Defined
10/13/2015 08:58	1.16 NTU	<=5	User-Defined
10/19/2015 09:51	1.04 NTU	<=5	User-Defined
10/27/2015 10:00	1.22 NTU	<=5	User-Defined
11/03/2015 09:50	1.40 NTU	<=5	User-Defined
11/10/2015 09:08	1.39 NTU	<=5	User-Defined
11/16/2015 11:11	1.50 NTU	<=5	User-Defined
11/23/2015 09:29	1.53 NTU	<=5	User-Defined

Turbidity		**Criteria**	
11/30/2015 09:17	1.58 NTU	<=5	User-Defined
12/07/2015 09:42	1.70 NTU	<=5	User-Defined
12/14/2015 10:21	2.10 NTU	<=5	User-Defined
12/21/2015 09:10	1.74 NTU	<=5	User-Defined
12/29/2015 08:20	1.59 NTU	<=5	User-Defined

# samples:	61	**min:**	0.54 NTU
# detects:	61	**max:**	2.10 NTU
# non-detects:	0	**avg:**	1.063 NTU (based on 61 numerical results)
# of Exceedences:	0	**95th percentile:**	1.689 NTU

Facility: McKinley Reservoir; McKinley Reservoir Chlorinator - RAW & TREATED
Sampling Point: McKinley Reservoir - TREATED WATER (5-2-EP, 3337)

Chlorine (free)		**Criteria**	
01/05/2015	3.4 mg/L	>=0.05	WaterTrax Suggested
01/05/2015	3.36 mg/L	>=0.05	WaterTrax Suggested
01/06/2015 09:07	3.5 mg/L	>=0.05	WaterTrax Suggested
01/06/2015 09:07	3.35 mg/L	>=0.05	WaterTrax Suggested
01/07/2015 11:25	3.8 mg/L	>=0.05	WaterTrax Suggested
01/07/2015 11:25	3.65 mg/L	>=0.05	WaterTrax Suggested
01/09/2015 09:30	3.3 mg/L	>=0.05	WaterTrax Suggested
01/09/2015 09:30	3.34 mg/L	>=0.05	WaterTrax Suggested
01/13/2015 08:37	3.3 mg/L	>=0.05	WaterTrax Suggested
01/13/2015 08:37	2.28 mg/L	>=0.05	WaterTrax Suggested
01/15/2015 09:15	3.3 mg/L	>=0.05	WaterTrax Suggested
01/15/2015 09:15	3.61 mg/L	>=0.05	WaterTrax Suggested
01/19/2015 09:30	3.3 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
01/19/2015 09:30	3.14 mg/L	>=0.05	WaterTrax Suggested
01/20/2015 08:30	3.10 mg/L	>=0.05	WaterTrax Suggested
01/20/2015 08:30	3.1 mg/L	>=0.05	WaterTrax Suggested
01/21/2015 09:50	3.21 mg/L	>=0.05	WaterTrax Suggested
01/21/2015 09:50	3.18 mg/L	>=0.05	WaterTrax Suggested
01/22/2015 09:09	3.3 mg/L	>=0.05	WaterTrax Suggested
01/22/2015 09:09	3.05 mg/L	>=0.05	WaterTrax Suggested
02/02/2015 08:55	2.94 mg/L	>=0.05	WaterTrax Suggested
02/02/2015 08:55	3.06 mg/L	>=0.05	WaterTrax Suggested
02/03/2015 09:08	3.4 mg/L	>=0.05	WaterTrax Suggested
02/03/2015 09:08	2.97 mg/L	>=0.05	WaterTrax Suggested
02/04/2015 07:35	2.91 mg/L	>=0.05	WaterTrax Suggested
02/04/2015 07:35	2.78 mg/L	>=0.05	WaterTrax Suggested
02/05/2015 09:40	3.3 mg/L	>=0.05	WaterTrax Suggested
02/05/2015 09:40	3.76 mg/L	>=0.05	WaterTrax Suggested
02/06/2015 09:20	3.66 mg/L	>=0.05	WaterTrax Suggested
02/06/2015 09:20	3.2 mg/L	>=0.05	WaterTrax Suggested
02/11/2015 10:00	3.60 mg/L	>=0.05	WaterTrax Suggested
02/11/2015 10:00	3.3 mg/L	>=0.05	WaterTrax Suggested
02/12/2015 13:00	3.89 mg/L	>=0.05	WaterTrax Suggested
02/12/2015 13:00	3.3 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
02/13/2015 09:55	3.49 mg/L	>=0.05	WaterTrax Suggested
02/13/2015 09:55	3.3 mg/L	>=0.05	WaterTrax Suggested
02/16/2015 08:53	3.4 mg/L	>=0.05	WaterTrax Suggested
02/16/2015 08:53	3.46 mg/L	>=0.05	WaterTrax Suggested
02/17/2015 14:15	3.41 mg/L	>=0.05	WaterTrax Suggested
02/17/2015 14:15	3.2 mg/L	>=0.05	WaterTrax Suggested
02/18/2015 09:00	3.51 mg/L	>=0.05	WaterTrax Suggested
02/18/2015 09:00	3.2 mg/L	>=0.05	WaterTrax Suggested
02/23/2015 10:20	3.1 mg/L	>=0.05	WaterTrax Suggested
02/23/2015 10:20	3.35 mg/L	>=0.05	WaterTrax Suggested
02/24/2015 09:20	3.2 mg/L	>=0.05	WaterTrax Suggested
02/24/2015 09:20	3.41 mg/L	>=0.05	WaterTrax Suggested
03/03/2015 08:52	3.60 mg/L	>=0.05	WaterTrax Suggested
03/03/2015 08:52	3.3 mg/L	>=0.05	WaterTrax Suggested
03/10/2015 08:51	3.4 mg/L	>=0.05	WaterTrax Suggested
03/10/2015 08:51	2.51 mg/L	>=0.05	WaterTrax Suggested
03/16/2015 08:41	4.04 mg/L	>=0.05	WaterTrax Suggested
03/16/2015 08:41	3.5 mg/L	>=0.05	WaterTrax Suggested
03/24/2015 08:28	3.30 mg/L	>=0.05	WaterTrax Suggested
03/24/2015 08:28	3.2 mg/L	>=0.05	WaterTrax Suggested
03/31/2015 08:45	3.2 mg/L	>=0.05	WaterTrax Suggested

WaterTrax

Chlorine (free)		Criteria	
03/31/2015 08:45	3.48 mg/L	>=0.05	WaterTrax Suggested
04/07/2015 11:00	3.40 mg/L	>=0.05	WaterTrax Suggested
04/07/2015 11:00	4.1 mg/L	>=0.05	WaterTrax Suggested
04/14/2015 09:15	3.07 mg/L	>=0.05	WaterTrax Suggested
04/14/2015 09:15	3.3 mg/L	>=0.05	WaterTrax Suggested
04/21/2015 08:44	3.61 mg/L	>=0.05	WaterTrax Suggested
04/21/2015 08:44	4.4 mg/L	>=0.05	WaterTrax Suggested
04/27/2015 08:58	4.11 mg/L	>=0.05	WaterTrax Suggested
04/27/2015 08:58	3.6 mg/L	>=0.05	WaterTrax Suggested
05/05/2015 09:10	3.9 mg/L	>=0.05	WaterTrax Suggested
05/05/2015 09:10	4.14 mg/L	>=0.05	WaterTrax Suggested
05/12/2015 08:48	4.01 mg/L	>=0.05	WaterTrax Suggested
05/12/2015 08:48	4.5 mg/L	>=0.05	WaterTrax Suggested
05/19/2015 09:24	5.36 mg/L	>=0.05	WaterTrax Suggested
05/19/2015 09:24	4.9 mg/L	>=0.05	WaterTrax Suggested
05/26/2015 08:51	4.82 mg/L	>=0.05	WaterTrax Suggested
05/26/2015 08:51	4.5 mg/L	>=0.05	WaterTrax Suggested
06/09/2015 08:32	4.1 mg/L	>=0.05	WaterTrax Suggested
06/09/2015 08:32	3.83 mg/L	>=0.05	WaterTrax Suggested
06/16/2015 09:00	4.6 mg/L	>=0.05	WaterTrax Suggested
06/16/2015 09:00	3.22 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
06/22/2015 08:29	4.3 mg/L	>=0.05	WaterTrax Suggested
06/22/2015 08:29	3.31 mg/L	>=0.05	WaterTrax Suggested
06/30/2015 09:24	4.9 mg/L	>=0.05	WaterTrax Suggested
06/30/2015 09:24	3.66 mg/L	>=0.05	WaterTrax Suggested
07/07/2015 08:57	4.6 mg/L	>=0.05	WaterTrax Suggested
07/07/2015 08:57	5.33 mg/L	>=0.05	WaterTrax Suggested
07/14/2015 09:03	5.0 mg/L	>=0.05	WaterTrax Suggested
07/14/2015 09:03	5.67 mg/L	>=0.05	WaterTrax Suggested
07/21/2015 08:44	3.89 mg/L	>=0.05	WaterTrax Suggested
07/21/2015 08:44	4.91 mg/L	>=0.05	WaterTrax Suggested
07/27/2015 09:35	4.78 mg/L	>=0.05	WaterTrax Suggested
07/27/2015 09:35	4.8 mg/L	>=0.05	WaterTrax Suggested
08/02/2015 08:57	4.0 mg/L	>=0.05	WaterTrax Suggested
08/02/2015 08:57	4.26 mg/L	>=0.05	WaterTrax Suggested
08/03/2015 08:52	3.96 mg/L	>=0.05	WaterTrax Suggested
08/03/2015 08:52	4.23 mg/L	>=0.05	WaterTrax Suggested
08/11/2015 09:21	4.2 mg/L	>=0.05	WaterTrax Suggested
08/11/2015 09:21	4.11 mg/L	>=0.05	WaterTrax Suggested
08/18/2015 08:47	4.4 mg/L	>=0.05	WaterTrax Suggested
08/18/2015 08:47	4.34 mg/L	>=0.05	WaterTrax Suggested
08/25/2015 08:30	4.38 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
08/25/2015 08:30	4.0 mg/L	>=0.05	WaterTrax Suggested
09/08/2015 09:26	5.19 mg/L	>=0.05	WaterTrax Suggested
09/08/2015 09:26	5.3 mg/L	>=0.05	WaterTrax Suggested
09/15/2015 08:48	4.53 mg/L	>=0.05	WaterTrax Suggested
09/15/2015 08:48	4.7 mg/L	>=0.05	WaterTrax Suggested
09/21/2015 09:05	4.4 mg/L	>=0.05	WaterTrax Suggested
09/21/2015 09:05	4.45 mg/L	>=0.05	WaterTrax Suggested
09/29/2015 08:48	3.8 mg/L	>=0.05	WaterTrax Suggested
09/29/2015 08:48	4.02 mg/L	>=0.05	WaterTrax Suggested
10/01/2015 09:30	4.75 mg/L	>=0.05	WaterTrax Suggested
10/01/2015 09:30	5.10 mg/L	>=0.05	WaterTrax Suggested
10/06/2015 09:05	3.7 mg/L	>=0.05	WaterTrax Suggested
10/06/2015 09:05	5.35 mg/L	>=0.05	WaterTrax Suggested
10/13/2015 08:58	4.4 mg/L	>=0.05	WaterTrax Suggested
10/13/2015 08:58	4.4 mg/L	>=0.05	WaterTrax Suggested
10/19/2015 09:51	3.5 mg/L	>=0.05	WaterTrax Suggested
10/19/2015 09:51	3.28 mg/L	>=0.05	WaterTrax Suggested
10/27/2015 10:00	3.7 mg/L	>=0.05	WaterTrax Suggested
10/27/2015 10:00	3.10 mg/L	>=0.05	WaterTrax Suggested
11/03/2015 09:50	3.7 mg/L	>=0.05	WaterTrax Suggested
11/03/2015 09:50	3.17 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
11/10/2015 09:08	3.8 mg/L	>=0.05	WaterTrax Suggested
11/10/2015 09:08	3.02 mg/L	>=0.05	WaterTrax Suggested
11/16/2015 11:11	4.00 mg/L	>=0.05	WaterTrax Suggested
11/16/2015 11:11	3.9 mg/L	>=0.05	WaterTrax Suggested
11/23/2015 09:29	3.7 mg/L	>=0.05	WaterTrax Suggested
11/23/2015 09:29	4.09 mg/L	>=0.05	WaterTrax Suggested
11/30/2015 09:17	3.7 mg/L	>=0.05	WaterTrax Suggested
11/30/2015 09:17	3.93 mg/L	>=0.05	WaterTrax Suggested
12/07/2015 09:42	3.5 mg/L	>=0.05	WaterTrax Suggested
12/07/2015 09:42	3.95 mg/L	>=0.05	WaterTrax Suggested
12/14/2015 10:21	3.5 mg/L	>=0.05	WaterTrax Suggested
12/14/2015 10:21	3.31 mg/L	>=0.05	WaterTrax Suggested
12/21/2015 09:10	3.3 mg/L	>=0.05	WaterTrax Suggested
12/21/2015 09:10	3.12 mg/L	>=0.05	WaterTrax Suggested

# samples:	132	**min:**	2.28 mg/L
# detects:	132	**max:**	5.67 mg/L
# non-detects:	0	**avg:**	3.781 mg/L (based on 132 numerical results)
# of Exceedences:	0		

Color (apparent)		**Criteria**	
01/06/2015 09:07	10 ACU	<=15	User-Defined
*** 01/07/2015 11:25**	**20 ACU**	**<=15**	**User-Defined**
*** 01/09/2015 09:30**	**17 ACU**	**<=15**	**User-Defined**
*** 01/13/2015 08:37**	**20 ACU**	**<=15**	**User-Defined**

WaterTrax

Color (apparent)		Criteria	
*** 01/15/2015 09:15**	**16 ACU**	**<=15**	**User-Defined**
*** 01/19/2015 09:30**	**20 ACU**	**<=15**	**User-Defined**
01/20/2015 08:30	9 ACU	<=15	User-Defined
01/21/2015 09:50	13 ACU	<=15	User-Defined
01/22/2015 09:09	5 ACU	<=15	User-Defined
02/02/2015 08:55	13 ACU	<=15	User-Defined
02/03/2015 09:08	15 ACU	<=15	User-Defined
*** 02/05/2015 09:40**	**18 ACU**	**<=15**	**User-Defined**
*** 02/06/2015 09:20**	**18 ACU**	**<=15**	**User-Defined**
*** 02/13/2015 09:55**	**19 ACU**	**<=15**	**User-Defined**
*** 02/16/2015 08:53**	**23 ACU**	**<=15**	**User-Defined**
*** 02/17/2015 14:15**	**21 ACU**	**<=15**	**User-Defined**
02/18/2015 09:00	15 ACU	<=15	User-Defined
02/23/2015 10:20	13 ACU	<=15	User-Defined
03/03/2015 08:52	15 ACU	<=15	User-Defined
*** 03/10/2015 08:51**	**17 ACU**	**<=15**	**User-Defined**
*** 03/16/2015 08:41**	**19 ACU**	**<=15**	**User-Defined**
03/24/2015 08:28	4 ACU	<=15	User-Defined
03/31/2015 08:45	15 ACU	<=15	User-Defined
*** 04/07/2015 11:00**	**19 ACU**	**<=15**	**User-Defined**
*** 04/14/2015 09:15**	**27 ACU**	**<=15**	**User-Defined**
04/21/2015 08:44	15 ACU	<=15	User-Defined
04/27/2015 08:58	15 ACU	<=15	User-Defined
05/05/2015 09:10	13 ACU	<=15	User-Defined
05/12/2015 08:48	10 ACU	<=15	User-Defined
05/19/2015 09:24	11 ACU	<=15	User-Defined
05/26/2015 08:51	11 ACU	<=15	User-Defined
06/09/2015 08:32	7 ACU	<=15	User-Defined
*** 06/16/2015 09:00**	**20 ACU**	**<=15**	**User-Defined**

Color (apparent)		Criteria	
06/22/2015 08:29	13 ACU	<=15	User-Defined
*** 07/07/2015 08:57**	**19 ACU**	**<=15**	**User-Defined**
*** 07/14/2015 09:03**	**17 ACU**	**<=15**	**User-Defined**
*** 07/21/2015 08:44**	**19 ACU**	**<=15**	**User-Defined**
07/27/2015 09:35	14 ACU	<=15	User-Defined
08/02/2015 08:57	7 ACU	<=15	User-Defined
08/03/2015 08:52	12 ACU	<=15	User-Defined
08/11/2015 09:21	10 ACU	<=15	User-Defined
08/18/2015 08:47	3 ACU	<=15	User-Defined
*** 08/25/2015 08:30**	**22 ACU**	**<=15**	**User-Defined**
*** 09/08/2015 09:26**	**26 ACU**	**<=15**	**User-Defined**
*** 09/15/2015 08:48**	**23 ACU**	**<=15**	**User-Defined**
09/29/2015 08:48	14 ACU	<=15	User-Defined
*** 10/01/2015 09:30**	**24 ACU**	**<=15**	**User-Defined**
*** 10/06/2015 09:05**	**19 ACU**	**<=15**	**User-Defined**
*** 10/13/2015 08:58**	**19 ACU**	**<=15**	**User-Defined**
10/19/2015 09:51	14 ACU	<=15	User-Defined
*** 11/10/2015 09:08**	**22 ACU**	**<=15**	**User-Defined**
*** 11/16/2015 11:11**	**35 ACU**	**<=15**	**User-Defined**
*** 11/23/2015 09:29**	**24 ACU**	**<=15**	**User-Defined**
*** 11/30/2015 09:17**	**35 ACU**	**<=15**	**User-Defined**
*** 12/07/2015 09:42**	**38 ACU**	**<=15**	**User-Defined**
*** 12/14/2015 10:21**	**24 ACU**	**<=15**	**User-Defined**
*** 12/21/2015 09:10**	**29 ACU**	**<=15**	**User-Defined**

# samples:	57	**min:**	3 ACU
# detects:	57	**max:**	38 ACU

# non-detects:	0	**avg:**	17.281 ACU (based on 57 numerical results)
# of Exceedences:	31		

Escherichia coli / E. coli (counts)		Criteria	
01/06/2015 09:07	< 1 counts/100mL	<=0, P	Microbiological Standard
01/13/2015 08:37	< 1 counts/100mL	<=0, P	Microbiological Standard
01/20/2015 08:30	< 1 counts/100mL	<=0, P	Microbiological Standard
01/27/2015 10:10	ND counts/100mL	<=0, P	Microbiological Standard
02/03/2015 09:08	< 1 counts/100mL	<=0, P	Microbiological Standard
02/10/2015 08:42	< 1 counts/100mL	<=0, P	Microbiological Standard
02/16/2015 08:53	< 1 counts/100mL	<=0, P	Microbiological Standard
02/24/2015 11:11	< 1 counts/100mL	<=0, P	Microbiological Standard
03/03/2015 08:53	< 1 counts/100mL	<=0, P	Microbiological Standard
03/10/2015 08:51	< 1 counts/100mL	<=0, P	Microbiological Standard
03/16/2015 08:41	< 1 counts/100mL	<=0, P	Microbiological Standard
03/24/2015 08:28	< 1 counts/100mL	<=0, P	Microbiological Standard
03/31/2015 08:45	< 1 counts/100mL	<=0, P	Microbiological Standard
04/07/2015 11:10	< 1 counts/100mL	<=0, P	Microbiological Standard
04/14/2015 09:15	< 1 counts/100mL	<=0, P	Microbiological Standard
04/21/2015 08:44	< 1 counts/100mL	<=0, P	Microbiological Standard
04/27/2015 08:58	< 1 counts/100mL	<=0, P	Microbiological Standard
05/05/2015 09:10	< 1 counts/100mL	<=0, P	Microbiological Standard
05/12/2015 08:48	< 1 counts/100mL	<=0, P	Microbiological Standard
05/19/2015 09:24	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		Criteria	
05/26/2015 08:57	< 1 counts/100mL	<=0, P	Microbiological Standard
06/02/2015 08:41	< 1 counts/100mL	<=0, P	Microbiological Standard
06/09/2015 08:32	< 1 counts/100mL	<=0, P	Microbiological Standard
06/16/2015 09:00	< 1 counts/100mL	<=0, P	Microbiological Standard
06/22/2015 08:31	< 1 counts/100mL	<=0, P	Microbiological Standard
06/30/2015 09:25	< 1 counts/100mL	<=0, P	Microbiological Standard
07/07/2015 08:54	< 1 counts/100mL	<=0, P	Microbiological Standard
07/14/2015 09:03	< 1 counts/100mL	<=0, P	Microbiological Standard
07/21/2015 08:45	< 1 counts/100mL	<=0, P	Microbiological Standard
07/27/2015 09:35	< 1 counts/100mL	<=0, P	Microbiological Standard
08/04/2015 08:49	< 1 counts/100mL	<=0, P	Microbiological Standard
08/11/2015 09:21	< 1 counts/100mL	<=0, P	Microbiological Standard
08/18/2015 08:47	< 1 counts/100mL	<=0, P	Microbiological Standard
08/25/2015 08:05	< 1 counts/100mL	<=0, P	Microbiological Standard
09/01/2015 09:11	< 1 counts/100mL	<=0, P	Microbiological Standard
09/08/2015 09:24	< 1 counts/100mL	<=0, P	Microbiological Standard
09/15/2015 08:48	< 1 counts/100mL	<=0, P	Microbiological Standard
09/21/2015 09:05	< 1 counts/100mL	<=0, P	Microbiological Standard
09/29/2015 08:55	< 1 counts/100mL	<=0, P	Microbiological Standard
10/06/2015 09:10	< 1 counts/100mL	<=0, P	Microbiological Standard
10/13/2015 08:58	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		**Criteria**	
10/19/2015 09:51	< 1 counts/100mL	<=0, P	Microbiological Standard
10/27/2015 10:00	< 1 counts/100mL	<=0, P	Microbiological Standard
11/03/2015 09:55	< 1 counts/100mL	<=0, P	Microbiological Standard
11/10/2015 09:08	< 1 counts/100mL	<=0, P	Microbiological Standard
11/16/2015 11:11	< 1 counts/100mL	<=0, P	Microbiological Standard
11/23/2015 09:29	< 1 counts/100mL	<=0, P	Microbiological Standard
11/30/2015 09:20	< 1 counts/100mL	<=0, P	Microbiological Standard
12/07/2015 09:43	< 1 counts/100mL	<=0, P	Microbiological Standard
12/14/2015 10:21	< 1 counts/100mL	<=0, P	Microbiological Standard
12/21/2015 09:12	< 1 counts/100mL	<=0, P	Microbiological Standard
12/24/2015 09:35	< 1 counts/100mL	<=0, P	Microbiological Standard
12/29/2015 08:20	< 1 counts/100mL	<=0, P	Microbiological Standard

# samples:	53	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	53	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

pH		**Criteria**	
11/03/2015 09:50	7.46		

# samples:	1	**min:**	7.46
# detects:	1	**max:**	7.46
# non-detects:	0	**avg:**	7.460 (based on 1 numerical results)
# of Exceedences:	0		

Total Coliforms (counts)		**Criteria**	
01/06/2015 09:07	< 1 counts/100mL	<=10	User-Defined
01/13/2015 08:37	< 1 counts/100mL	<=10	User-Defined
01/20/2015 08:30	< 1 counts/100mL	<=10	User-Defined

Total Coliforms (counts)		Criteria	
01/27/2015 10:10	ND counts/100mL	<=10	User-Defined
02/03/2015 09:08	< 1 counts/100mL	<=10	User-Defined
02/10/2015 08:42	< 1 counts/100mL	<=10	User-Defined
02/16/2015 08:53	< 1 counts/100mL	<=10	User-Defined
02/24/2015 11:11	< 1 counts/100mL	<=10	User-Defined
03/03/2015 08:53	< 1 counts/100mL	<=10	User-Defined
03/10/2015 08:51	< 1 counts/100mL	<=10	User-Defined
03/16/2015 08:41	< 1 counts/100mL	<=10	User-Defined
03/24/2015 08:28	< 1 counts/100mL	<=10	User-Defined
03/31/2015 08:45	< 1 counts/100mL	<=10	User-Defined
04/07/2015 11:10	< 1 counts/100mL	<=10	User-Defined
04/14/2015 09:15	< 1 counts/100mL	<=10	User-Defined
04/21/2015 08:44	< 1 counts/100mL	<=10	User-Defined
04/27/2015 08:58	< 1 counts/100mL	<=10	User-Defined
05/05/2015 09:10	< 1 counts/100mL	<=10	User-Defined
05/12/2015 08:48	< 1 counts/100mL	<=10	User-Defined
05/19/2015 09:24	< 1 counts/100mL	<=10	User-Defined
05/26/2015 08:57	< 1 counts/100mL	<=10	User-Defined
06/02/2015 08:41	< 1 counts/100mL	<=10	User-Defined
06/09/2015 08:32	< 1 counts/100mL	<=10	User-Defined
06/16/2015 09:00	1 counts/100mL	<=10	User-Defined
06/22/2015 08:31	< 1 counts/100mL	<=10	User-Defined
06/30/2015 09:25	< 1 counts/100mL	<=10	User-Defined
07/07/2015 08:54	< 1 counts/100mL	<=10	User-Defined
07/14/2015 09:03	< 1 counts/100mL	<=10	User-Defined
07/21/2015 08:45	1 counts/100mL	<=10	User-Defined
07/27/2015 09:35	< 1 counts/100mL	<=10	User-Defined
08/04/2015 08:49	1 counts/100mL	<=10	User-Defined
08/11/2015 09:21	< 1 counts/100mL	<=10	User-Defined
08/18/2015 08:47	< 1 counts/100mL	<=10	User-Defined
08/25/2015 08:05	< 1 counts/100mL	<=10	User-Defined
09/01/2015 09:11	< 1 counts/100mL	<=10	User-Defined
09/08/2015 09:24	< 1 counts/100mL	<=10	User-Defined
09/15/2015 08:48	< 1 counts/100mL	<=10	User-Defined
09/21/2015 09:05	< 1 counts/100mL	<=10	User-Defined
09/29/2015 08:55	< 1 counts/100mL	<=10	User-Defined
10/06/2015 09:10	< 1 counts/100mL	<=10	User-Defined
10/13/2015 08:58	< 1 counts/100mL	<=10	User-Defined
10/19/2015 09:51	< 1 counts/100mL	<=10	User-Defined

Total Coliforms (counts)		**Criteria**	
10/27/2015 10:00	< 1 counts/100mL	<=10	User-Defined
11/03/2015 09:55	< 1 counts/100mL	<=10	User-Defined
11/10/2015 09:08	< 1 counts/100mL	<=10	User-Defined
11/16/2015 11:11	< 1 counts/100mL	<=10	User-Defined
11/23/2015 09:29	< 1 counts/100mL	<=10	User-Defined
11/30/2015 09:20	< 1 counts/100mL	<=10	User-Defined
12/07/2015 09:43	< 1 counts/100mL	<=10	User-Defined
12/14/2015 10:21	< 1 counts/100mL	<=10	User-Defined
12/21/2015 09:12	< 1 counts/100mL	<=10	User-Defined
12/24/2015 09:35	< 1 counts/100mL	<=10	User-Defined
12/29/2015 08:20	< 1 counts/100mL	<=10	User-Defined

# samples:	53	**min:**	< 1 counts/100mL
# detects:	3	**max:**	1 counts/100mL
# non-detects:	50	**Geometric Mean:**	1.000 counts/100mL (based on 3 numerical results)
# of Exceedences:	0		

Turbidity		**Criteria**	
01/06/2015 09:07	1.02 NTU	<=5	User-Defined
01/07/2015 11:25	1.32 NTU	<=5	User-Defined
01/09/2015 09:30	1.13 NTU	<=5	User-Defined
01/13/2015 08:37	1.54 NTU	<=5	User-Defined
01/15/2015 09:15	1.13 NTU	<=5	User-Defined
01/19/2015 09:30	1.24 NTU	<=5	User-Defined
01/20/2015 08:30	1.15 NTU	<=5	User-Defined
01/21/2015 09:50	1.27 NTU	<=5	User-Defined
01/22/2015 09:09	1.28 NTU	<=5	User-Defined
02/02/2015 08:55	1.11 NTU	<=5	User-Defined
02/03/2015 09:08	1.52 NTU	<=5	User-Defined
02/05/2015 09:40	1.66 NTU	<=5	User-Defined
02/06/2015 09:20	1.35 NTU	<=5	User-Defined
02/13/2015 09:55	1.56 NTU	<=5	User-Defined
02/16/2015 08:53	1.28 NTU	<=5	User-Defined
02/17/2015 14:15	1.24 NTU	<=5	User-Defined
02/18/2015 09:00	1.12 NTU	<=5	User-Defined
02/23/2015 10:20	1.42 NTU	<=5	User-Defined
03/03/2015 08:52	1.24 NTU	<=5	User-Defined
03/10/2015 08:51	1.15 NTU	<=5	User-Defined
03/16/2015 08:41	1.63 NTU	<=5	User-Defined
03/24/2015 08:28	0.82 NTU	<=5	User-Defined

Turbidity		Criteria	
03/31/2015 08:45	1.18 NTU	<=5	User-Defined
04/07/2015 11:00	1.31 NTU	<=5	User-Defined
04/14/2015 09:15	1.30 NTU	<=5	User-Defined
04/21/2015 08:44	0.85 NTU	<=5	User-Defined
04/27/2015 08:58	1.27 NTU	<=5	User-Defined
05/05/2015 09:10	1.19 NTU	<=5	User-Defined
05/12/2015 08:48	1.35 NTU	<=5	User-Defined
05/19/2015 09:24	1.79 NTU	<=5	User-Defined
06/09/2015 08:32	1.24 NTU	<=5	User-Defined
06/16/2015 09:00	1.55 NTU	<=5	User-Defined
06/22/2015 08:29	1.63 NTU	<=5	User-Defined
07/07/2015 08:57	1.77 NTU	<=5	User-Defined
07/14/2015 09:03	1.18 NTU	<=5	User-Defined
07/21/2015 08:44	1.72 NTU	<=5	User-Defined
07/27/2015 09:35	1.16 NTU	<=5	User-Defined
08/02/2015 08:57	1.92 NTU	<=5	User-Defined
08/03/2015 08:52	1.04 NTU	<=5	User-Defined
08/11/2015 09:21	0.92 NTU	<=5	User-Defined
08/18/2015 08:47	0.97 NTU	<=5	User-Defined
08/25/2015 08:30	1.46 NTU	<=5	User-Defined
09/08/2015 09:26	1.77 NTU	<=5	User-Defined
09/15/2015 08:48	1.75 NTU	<=5	User-Defined
09/29/2015 08:48	1.59 NTU	<=5	User-Defined
10/01/2015 09:30	1.54 NTU	<=5	User-Defined
10/06/2015 09:05	1.38 NTU	<=5	User-Defined
10/13/2015 08:58	1.35 NTU	<=5	User-Defined
10/19/2015 09:51	1.59 NTU	<=5	User-Defined
10/27/2015 10:00	1.40 NTU	<=5	User-Defined
11/03/2015 09:50	1.45 NTU	<=5	User-Defined
11/10/2015 09:08	1.38 NTU	<=5	User-Defined
11/16/2015 11:11	1.70 NTU	<=5	User-Defined
11/23/2015 09:29	1.82 NTU	<=5	User-Defined
11/30/2015 09:17	1.70 NTU	<=5	User-Defined
12/07/2015 09:42	1.89 NTU	<=5	User-Defined
12/14/2015 10:21	2.05 NTU	<=5	User-Defined
12/21/2015 09:10	2.13 NTU	<=5	User-Defined

# samples:	58	**min:**	0.82 NTU
# detects:	58	**max:**	2.13 NTU
# non-detects:	0	**avg:**	1.405 NTU (based on 58 numerical results)

# of Exceedences:	0	**95th percentile:**	1.927 NTU

Facility: Reservoirs
Sampling Point: 01 Union Road Post-Reservoir (13-8-MD, 3363)

Chlorine (free)		Criteria	
01/05/2015 11:15	2.19 mg/L	>=0.05	WaterTrax Suggested
01/05/2015 11:15	2.28 mg/L	>=0.05	WaterTrax Suggested
01/06/2015 08:02	1.77 mg/L	>=0.05	WaterTrax Suggested
01/06/2015 08:02	2.09 mg/L	>=0.05	WaterTrax Suggested
01/07/2015 09:00	1.96 mg/L	>=0.05	WaterTrax Suggested
01/07/2015 09:00	1.70 mg/L	>=0.05	WaterTrax Suggested
01/09/2015 08:00	1.81 mg/L	>=0.05	WaterTrax Suggested
01/09/2015 08:00	1.87 mg/L	>=0.05	WaterTrax Suggested
01/13/2015 07:39	1.92 mg/L	>=0.05	WaterTrax Suggested
01/13/2015 07:39	1.78 mg/L	>=0.05	WaterTrax Suggested
01/15/2015 08:30	1.89 mg/L	>=0.05	WaterTrax Suggested
01/15/2015 08:30	1.85 mg/L	>=0.05	WaterTrax Suggested
01/19/2015 08:00	1.79 mg/L	>=0.05	WaterTrax Suggested
01/19/2015 08:00	1.81 mg/L	>=0.05	WaterTrax Suggested
01/20/2015 07:42	1.83 mg/L	>=0.05	WaterTrax Suggested
01/20/2015 07:42	1.85 mg/L	>=0.05	WaterTrax Suggested
01/21/2015 07:50	1.53 mg/L	>=0.05	WaterTrax Suggested
01/21/2015 07:50	1.77 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
01/22/2015 07:47	2.25 mg/L	>=0.05	WaterTrax Suggested
01/22/2015 07:47	1.89 mg/L	>=0.05	WaterTrax Suggested
02/02/2015 07:40	1.98 mg/L	>=0.05	WaterTrax Suggested
02/02/2015 07:40	1.78 mg/L	>=0.05	WaterTrax Suggested
02/03/2015 08:22	1.99 mg/L	>=0.05	WaterTrax Suggested
02/03/2015 08:22	1.98 mg/L	>=0.05	WaterTrax Suggested
02/04/2015 12:10	2.01 mg/L	>=0.05	WaterTrax Suggested
02/04/2015 12:10	1.91 mg/L	>=0.05	WaterTrax Suggested
02/05/2015 08:30	1.91 mg/L	>=0.05	WaterTrax Suggested
02/06/2015 08:17	1.82 mg/L	>=0.05	WaterTrax Suggested
02/06/2015 08:17	1.91 mg/L	>=0.05	WaterTrax Suggested
02/11/2015 12:50	1.82 mg/L	>=0.05	WaterTrax Suggested
02/11/2015 12:50	1.85 mg/L	>=0.05	WaterTrax Suggested
02/12/2015 11:00	1.76 mg/L	>=0.05	WaterTrax Suggested
02/12/2015 11:00	1.75 mg/L	>=0.05	WaterTrax Suggested
02/13/2015 07:30	1.78 mg/L	>=0.05	WaterTrax Suggested
02/13/2015 07:30	1.87 mg/L	>=0.05	WaterTrax Suggested
02/16/2015 07:55	1.84 mg/L	>=0.05	WaterTrax Suggested
02/16/2015 07:55	1.77 mg/L	>=0.05	WaterTrax Suggested
02/17/2015 12:50	1.89 mg/L	>=0.05	WaterTrax Suggested
02/17/2015 12:50	1.83 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
02/18/2015 08:00	1.80 mg/L	>=0.05	WaterTrax Suggested
02/18/2015 08:00	1.87 mg/L	>=0.05	WaterTrax Suggested
02/23/2015 10:50	1.47 mg/L	>=0.05	WaterTrax Suggested
02/23/2015 10:50	1.31 mg/L	>=0.05	WaterTrax Suggested
02/24/2015 07:55	1.73 mg/L	>=0.05	WaterTrax Suggested
02/24/2015 07:55	1.48 mg/L	>=0.05	WaterTrax Suggested
03/03/2015 07:20	1.86 mg/L	>=0.05	WaterTrax Suggested
03/03/2015 07:20	1.95 mg/L	>=0.05	WaterTrax Suggested
03/10/2015 08:00	1.91 mg/L	>=0.05	WaterTrax Suggested
03/10/2015 08:00	1.76 mg/L	>=0.05	WaterTrax Suggested
03/16/2015 07:55	1.78 mg/L	>=0.05	WaterTrax Suggested
03/16/2015 07:55	1.75 mg/L	>=0.05	WaterTrax Suggested
03/24/2015 07:40	1.94 mg/L	>=0.05	WaterTrax Suggested
03/24/2015 07:40	1.87 mg/L	>=0.05	WaterTrax Suggested
03/31/2015 07:51	1.80 mg/L	>=0.05	WaterTrax Suggested
03/31/2015 07:51	1.77 mg/L	>=0.05	WaterTrax Suggested
04/07/2015 08:50	1.63 mg/L	>=0.05	WaterTrax Suggested
04/07/2015 08:50	1.81 mg/L	>=0.05	WaterTrax Suggested
04/14/2015 10:19	1.92 mg/L	>=0.05	WaterTrax Suggested
04/14/2015 10:19	1.61 mg/L	>=0.05	WaterTrax Suggested
04/21/2015 07:50	2.28 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
04/21/2015 07:50	2.05 mg/L	>=0.05	WaterTrax Suggested
04/27/2015 08:11	1.92 mg/L	>=0.05	WaterTrax Suggested
04/27/2015 08:11	1.91 mg/L	>=0.05	WaterTrax Suggested
05/05/2015 08:14	2.34 mg/L	>=0.05	WaterTrax Suggested
05/05/2015 08:14	2.54 mg/L	>=0.05	WaterTrax Suggested
05/12/2015 07:57	1.63 mg/L	>=0.05	WaterTrax Suggested
05/12/2015 07:57	2.68 mg/L	>=0.05	WaterTrax Suggested
05/19/2015 08:36	3.12 mg/L	>=0.05	WaterTrax Suggested
05/19/2015 08:36	2.39 mg/L	>=0.05	WaterTrax Suggested
05/26/2015 07:54	2.89 mg/L	>=0.05	WaterTrax Suggested
05/26/2015 07:54	3.40 mg/L	>=0.05	WaterTrax Suggested
06/09/2015 07:35	3.00 mg/L	>=0.05	WaterTrax Suggested
06/09/2015 07:35	2.67 mg/L	>=0.05	WaterTrax Suggested
06/16/2015 07:50	2.64 mg/L	>=0.05	WaterTrax Suggested
06/16/2015 07:50	2.64 mg/L	>=0.05	WaterTrax Suggested
06/22/2015 07:42	2.75 mg/L	>=0.05	WaterTrax Suggested
06/22/2015 07:42	2.80 mg/L	>=0.05	WaterTrax Suggested
06/30/2015 07:40	3.05 mg/L	>=0.05	WaterTrax Suggested
06/30/2015 07:40	2.80 mg/L	>=0.05	WaterTrax Suggested
07/07/2015 08:12	3.51 mg/L	>=0.05	WaterTrax Suggested
07/07/2015 08:12	2.75 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
07/14/2015 07:54	3.35 mg/L	>=0.05	WaterTrax Suggested
07/21/2015 08:01	3.27 mg/L	>=0.05	WaterTrax Suggested
07/21/2015 08:01	2.96 mg/L	>=0.05	WaterTrax Suggested
07/27/2015 08:41	3.08 mg/L	>=0.05	WaterTrax Suggested
07/27/2015 08:41	3.56 mg/L	>=0.05	WaterTrax Suggested
08/02/2015 07:50	2.92 mg/L	>=0.05	WaterTrax Suggested
08/02/2015 07:50	2.82 mg/L	>=0.05	WaterTrax Suggested
08/03/2015 08:03	2.91 mg/L	>=0.05	WaterTrax Suggested
08/03/2015 08:03	2.75 mg/L	>=0.05	WaterTrax Suggested
08/11/2015 08:29	2.95 mg/L	>=0.05	WaterTrax Suggested
08/11/2015 08:29	2.49 mg/L	>=0.05	WaterTrax Suggested
08/18/2015 07:54	3.24 mg/L	>=0.05	WaterTrax Suggested
08/18/2015 07:54	3.42 mg/L	>=0.05	WaterTrax Suggested
08/25/2015 07:38	3.04 mg/L	>=0.05	WaterTrax Suggested
08/25/2015 07:38	3.31 mg/L	>=0.05	WaterTrax Suggested
09/08/2015 08:30	3.19 mg/L	>=0.05	WaterTrax Suggested
09/08/2015 08:30	3.46 mg/L	>=0.05	WaterTrax Suggested
09/15/2015 08:02	2.81 mg/L	>=0.05	WaterTrax Suggested
09/15/2015 08:02	2.75 mg/L	>=0.05	WaterTrax Suggested
09/21/2015 08:21	2.46 mg/L	>=0.05	WaterTrax Suggested
09/21/2015 08:21	2.52 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
09/29/2015 08:00	2.65 mg/L	>=0.05	WaterTrax Suggested
09/29/2015 08:00	2.58 mg/L	>=0.05	WaterTrax Suggested
10/01/2015 08:19	3.44 mg/L	>=0.05	WaterTrax Suggested
10/01/2015 08:19	3.45 mg/L	>=0.05	WaterTrax Suggested
10/06/2015 08:10	2.45 mg/L	>=0.05	WaterTrax Suggested
10/06/2015 08:10	2.40 mg/L	>=0.05	WaterTrax Suggested
10/13/2015 08:11	2.25 mg/L	>=0.05	WaterTrax Suggested
10/13/2015 08:11	2.25 mg/L	>=0.05	WaterTrax Suggested
10/19/2015 08:01	1.95 mg/L	>=0.05	WaterTrax Suggested
10/19/2015 08:01	1.89 mg/L	>=0.05	WaterTrax Suggested
10/27/2015 08:15	1.66 mg/L	>=0.05	WaterTrax Suggested
10/27/2015 08:15	1.74 mg/L	>=0.05	WaterTrax Suggested
11/03/2015 08:00	1.70 mg/L	>=0.05	WaterTrax Suggested
11/03/2015 08:00	1.49 mg/L	>=0.05	WaterTrax Suggested
11/10/2015 08:08	1.63 mg/L	>=0.05	WaterTrax Suggested
11/10/2015 08:08	1.74 mg/L	>=0.05	WaterTrax Suggested
11/16/2015 09:13	2.03 mg/L	>=0.05	WaterTrax Suggested
11/16/2015 09:13	1.77 mg/L	>=0.05	WaterTrax Suggested
11/23/2015 08:36	1.99 mg/L	>=0.05	WaterTrax Suggested
11/23/2015 08:36	2.06 mg/L	>=0.05	WaterTrax Suggested
11/30/2015 08:24	2.00 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
11/30/2015 08:24	2.04 mg/L	>=0.05	WaterTrax Suggested
12/07/2015 08:43	2.01 mg/L	>=0.05	WaterTrax Suggested
12/07/2015 08:43	1.69 mg/L	>=0.05	WaterTrax Suggested
12/14/2015 08:14	1.93 mg/L	>=0.05	WaterTrax Suggested
12/14/2015 08:14	1.98 mg/L	>=0.05	WaterTrax Suggested
12/21/2015 08:13	1.81 mg/L	>=0.05	WaterTrax Suggested
12/21/2015 08:13	1.53 mg/L	>=0.05	WaterTrax Suggested
12/29/2015 07:31	1.68 mg/L	>=0.05	WaterTrax Suggested
12/29/2015 07:31	1.80 mg/L	>=0.05	WaterTrax Suggested

# samples:	132	**min:**	1.31 mg/L
# detects:	132	**max:**	3.56 mg/L
# non-detects:	0	**avg:**	2.204 mg/L (based on 132 numerical results)
# of Exceedences:	0		

Color (apparent)		**Criteria**	
01/06/2015 08:02	6 ACU	<=15	User-Defined
*** 01/13/2015 07:39**	**18 ACU**	**<=15**	**User-Defined**
01/20/2015 07:42	15 ACU	<=15	User-Defined
02/03/2015 08:22	8 ACU	<=15	User-Defined
02/16/2015 07:55	13 ACU	<=15	User-Defined
*** 02/24/2015 07:55**	**18 ACU**	**<=15**	**User-Defined**
*** 03/03/2015 07:20**	**21 ACU**	**<=15**	**User-Defined**
03/10/2015 08:00	15 ACU	<=15	User-Defined
03/16/2015 07:55	12 ACU	<=15	User-Defined
03/24/2015 07:40	14 ACU	<=15	User-Defined
03/31/2015 07:51	10 ACU	<=15	User-Defined
04/07/2015 08:50	15 ACU	<=15	User-Defined
*** 04/14/2015 10:19**	**26 ACU**	**<=15**	**User-Defined**

Color (apparent)		Criteria	
04/21/2015 07:50	6 ACU	<=15	User-Defined
*** 04/27/2015 08:11**	**25 ACU**	**<=15**	**User-Defined**
05/12/2015 07:57	10 ACU	<=15	User-Defined
05/19/2015 08:36	4 ACU	<=15	User-Defined
05/26/2015 07:54	7 ACU	<=15	User-Defined
06/09/2015 07:35	11 ACU	<=15	User-Defined
06/16/2015 07:50	12 ACU	<=15	User-Defined
06/22/2015 07:42	14 ACU	<=15	User-Defined
07/07/2015 08:12	6 ACU	<=15	User-Defined
*** 07/14/2015 07:54**	**23 ACU**	**<=15**	**User-Defined**
*** 07/21/2015 08:01**	**18 ACU**	**<=15**	**User-Defined**
07/27/2015 08:41	12 ACU	<=15	User-Defined
*** 08/02/2015 07:50**	**16 ACU**	**<=15**	**User-Defined**
08/03/2015 08:03	12 ACU	<=15	User-Defined
08/11/2015 08:29	14 ACU	<=15	User-Defined
08/18/2015 07:54	5 ACU	<=15	User-Defined
08/25/2015 07:38	13 ACU	<=15	User-Defined
09/08/2015 08:30	14 ACU	<=15	User-Defined
*** 09/15/2015 08:02**	**16 ACU**	**<=15**	**User-Defined**
*** 09/29/2015 08:00**	**23 ACU**	**<=15**	**User-Defined**
10/06/2015 08:10	9 ACU	<=15	User-Defined
*** 10/13/2015 08:11**	**18 ACU**	**<=15**	**User-Defined**
10/19/2015 08:01	9 ACU	<=15	User-Defined
*** 11/10/2015 08:08**	**22 ACU**	**<=15**	**User-Defined**
*** 11/16/2015 09:13**	**23 ACU**	**<=15**	**User-Defined**
*** 11/23/2015 08:36**	**25 ACU**	**<=15**	**User-Defined**
*** 11/30/2015 08:24**	**21 ACU**	**<=15**	**User-Defined**
*** 12/07/2015 08:43**	**36 ACU**	**<=15**	**User-Defined**
*** 12/14/2015 08:14**	**24 ACU**	**<=15**	**User-Defined**

Color (apparent)		**Criteria**	
*** 12/21/2015 08:13**	**36 ACU**	**<=15**	**User-Defined**

# samples:	43	**min:**	4 ACU
# detects:	43	**max:**	36 ACU
# non-detects:	0	**avg:**	15.698 ACU (based on 43 numerical results)
# of Exceedences:	18		

Escherichia coli / E. coli (counts)		**Criteria**	
01/06/2015 08:03	< 1 counts/100mL	<=0, P	Microbiological Standard
01/13/2015 07:39	< 1 counts/100mL	<=0, P	Microbiological Standard
01/20/2015 07:42	< 1 counts/100mL	<=0, P	Microbiological Standard
01/27/2015 08:40	ND counts/100mL	<=0, P	Microbiological Standard
02/03/2015 08:22	< 1 counts/100mL	<=0, P	Microbiological Standard
02/10/2015 07:51	< 1 counts/100mL	<=0, P	Microbiological Standard
02/16/2015 07:55	< 1 counts/100mL	<=0, P	Microbiological Standard
02/24/2015 10:27	< 1 counts/100mL	<=0, P	Microbiological Standard
03/03/2015 07:40	< 1 counts/100mL	<=0, P	Microbiological Standard
03/10/2015 08:00	< 1 counts/100mL	<=0, P	Microbiological Standard
03/16/2015 07:55	< 1 counts/100mL	<=0, P	Microbiological Standard
03/24/2015 07:40	< 1 counts/100mL	<=0, P	Microbiological Standard
03/31/2015 07:51	< 1 counts/100mL	<=0, P	Microbiological Standard
04/07/2015 09:00	< 1 counts/100mL	<=0, P	Microbiological Standard
04/14/2015 10:19	< 1 counts/100mL	<=0, P	Microbiological Standard
04/21/2015 07:50	< 1 counts/100mL	<=0, P	Microbiological Standard
04/27/2015 08:11	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		Criteria	
05/05/2015 08:14	< 1 counts/100mL	<=0, P	Microbiological Standard
05/12/2015 07:57	< 1 counts/100mL	<=0, P	Microbiological Standard
05/19/2015 08:36	< 1 counts/100mL	<=0, P	Microbiological Standard
05/26/2015 07:54	< 1 counts/100mL	<=0, P	Microbiological Standard
06/02/2015 07:55	< 1 counts/100mL	<=0, P	Microbiological Standard
06/09/2015 07:35	< 1 counts/100mL	<=0, P	Microbiological Standard
06/16/2015 07:50	< 1 counts/100mL	<=0, P	Microbiological Standard
06/22/2015 07:45	< 1 counts/100mL	<=0, P	Microbiological Standard
06/30/2015 07:40	< 1 counts/100mL	<=0, P	Microbiological Standard
07/07/2015 08:12	< 1 counts/100mL	<=0, P	Microbiological Standard
07/14/2015 07:54	< 1 counts/100mL	<=0, P	Microbiological Standard
07/21/2015 07:59	< 1 counts/100mL	<=0, P	Microbiological Standard
07/27/2015 08:44	< 1 counts/100mL	<=0, P	Microbiological Standard
08/04/2015 08:03	< 1 counts/100mL	<=0, P	Microbiological Standard
08/11/2015 08:29	< 1 counts/100mL	<=0, P	Microbiological Standard
08/18/2015 07:54	< 1 counts/100mL	<=0, P	Microbiological Standard
08/25/2015 07:46	< 1 counts/100mL	<=0, P	Microbiological Standard
09/01/2015 08:15	< 1 counts/100mL	<=0, P	Microbiological Standard
09/08/2015 08:30	< 1 counts/100mL	<=0, P	Microbiological Standard
09/15/2015 08:02	< 1 counts/100mL	<=0, P	Microbiological Standard
09/17/2015 09:50	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		Criteria	
09/21/2015 08:21	< 1 counts/100mL	<=0, P	Microbiological Standard
09/29/2015 08:00	< 1 counts/100mL	<=0, P	Microbiological Standard
10/06/2015 08:10	< 1 counts/100mL	<=0, P	Microbiological Standard
10/13/2015 08:11	< 1 counts/100mL	<=0, P	Microbiological Standard
10/19/2015 08:01	< 1 counts/100mL	<=0, P	Microbiological Standard
10/27/2015 08:20	< 1 counts/100mL	<=0, P	Microbiological Standard
11/03/2015 08:00	< 1 counts/100mL	<=0, P	Microbiological Standard
11/10/2015 08:08	< 1 counts/100mL	<=0, P	Microbiological Standard
11/16/2015 09:15	< 1 counts/100mL	<=0, P	Microbiological Standard
11/23/2015 08:36	< 1 counts/100mL	<=0, P	Microbiological Standard
11/30/2015 08:30	< 1 counts/100mL	<=0, P	Microbiological Standard
12/07/2015 08:43	< 1 counts/100mL	<=0, P	Microbiological Standard
12/14/2015 08:15	< 1 counts/100mL	<=0, P	Microbiological Standard
12/21/2015 08:13	< 1 counts/100mL	<=0, P	Microbiological Standard
12/29/2015 07:31	< 1 counts/100mL	<=0, P	Microbiological Standard

# samples:	53	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	53	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

pH		Criteria
09/17/2015 09:50	7.85	

# samples:	1	**min:**	7.85
# detects:	1	**max:**	7.85
# non-detects:	0	**avg:**	7.850 (based on 1 numerical results)
# of Exceedences:	0		

Total Coliforms (counts)		Criteria	
01/06/2015 08:03	< 1 counts/100mL	<=10	User-Defined
01/13/2015 07:39	< 1 counts/100mL	<=10	User-Defined
01/20/2015 07:42	< 1 counts/100mL	<=10	User-Defined
01/27/2015 08:40	ND counts/100mL	<=10	User-Defined
02/03/2015 08:22	< 1 counts/100mL	<=10	User-Defined
02/10/2015 07:51	< 1 counts/100mL	<=10	User-Defined
02/16/2015 07:55	< 1 counts/100mL	<=10	User-Defined
02/24/2015 10:27	< 1 counts/100mL	<=10	User-Defined
03/03/2015 07:40	< 1 counts/100mL	<=10	User-Defined
03/10/2015 08:00	< 1 counts/100mL	<=10	User-Defined
03/16/2015 07:55	< 1 counts/100mL	<=10	User-Defined
03/24/2015 07:40	< 1 counts/100mL	<=10	User-Defined
03/31/2015 07:51	< 1 counts/100mL	<=10	User-Defined
04/07/2015 09:00	< 1 counts/100mL	<=10	User-Defined
04/14/2015 10:19	< 1 counts/100mL	<=10	User-Defined
04/21/2015 07:50	< 1 counts/100mL	<=10	User-Defined
04/27/2015 08:11	< 1 counts/100mL	<=10	User-Defined
05/05/2015 08:14	< 1 counts/100mL	<=10	User-Defined
05/12/2015 07:57	< 1 counts/100mL	<=10	User-Defined
05/19/2015 08:36	< 1 counts/100mL	<=10	User-Defined
05/26/2015 07:54	< 1 counts/100mL	<=10	User-Defined
06/02/2015 07:55	< 1 counts/100mL	<=10	User-Defined
06/09/2015 07:35	< 1 counts/100mL	<=10	User-Defined
06/16/2015 07:50	< 1 counts/100mL	<=10	User-Defined
06/22/2015 07:45	< 1 counts/100mL	<=10	User-Defined
06/30/2015 07:40	< 1 counts/100mL	<=10	User-Defined
07/07/2015 08:12	< 1 counts/100mL	<=10	User-Defined
07/14/2015 07:54	< 1 counts/100mL	<=10	User-Defined
07/21/2015 07:59	< 1 counts/100mL	<=10	User-Defined
07/27/2015 08:44	< 1 counts/100mL	<=10	User-Defined
08/04/2015 08:03	< 1 counts/100mL	<=10	User-Defined
08/11/2015 08:29	< 1 counts/100mL	<=10	User-Defined
08/18/2015 07:54	< 1 counts/100mL	<=10	User-Defined
08/25/2015 07:46	< 1 counts/100mL	<=10	User-Defined
09/01/2015 08:15	< 1 counts/100mL	<=10	User-Defined
09/08/2015 08:30	< 1 counts/100mL	<=10	User-Defined
09/15/2015 08:02	< 1 counts/100mL	<=10	User-Defined
09/17/2015 09:50	< 1 counts/100mL	<=10	User-Defined
09/21/2015 08:21	< 1 counts/100mL	<=10	User-Defined

Total Coliforms (counts)		**Criteria**	
09/29/2015 08:00	< 1 counts/100mL	<=10	User-Defined
10/06/2015 08:10	< 1 counts/100mL	<=10	User-Defined
10/13/2015 08:11	< 1 counts/100mL	<=10	User-Defined
10/19/2015 08:01	< 1 counts/100mL	<=10	User-Defined
10/27/2015 08:20	< 1 counts/100mL	<=10	User-Defined
11/03/2015 08:00	< 1 counts/100mL	<=10	User-Defined
11/10/2015 08:08	< 1 counts/100mL	<=10	User-Defined
11/16/2015 09:15	< 1 counts/100mL	<=10	User-Defined
11/23/2015 08:36	< 1 counts/100mL	<=10	User-Defined
11/30/2015 08:30	< 1 counts/100mL	<=10	User-Defined
12/07/2015 08:43	< 1 counts/100mL	<=10	User-Defined
12/14/2015 08:15	< 1 counts/100mL	<=10	User-Defined
12/21/2015 08:13	< 1 counts/100mL	<=10	User-Defined
12/29/2015 07:31	< 1 counts/100mL	<=10	User-Defined

# samples:	53	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	53	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Turbidity		**Criteria**	
01/06/2015 08:02	1.16 NTU	<=5	User-Defined
01/13/2015 07:39	1.32 NTU	<=5	User-Defined
01/20/2015 07:42	1.21 NTU	<=5	User-Defined
02/03/2015 08:22	1.04 NTU	<=5	User-Defined
02/16/2015 07:55	1.22 NTU	<=5	User-Defined
02/24/2015 07:55	1.25 NTU	<=5	User-Defined
03/03/2015 07:20	1.45 NTU	<=5	User-Defined
03/10/2015 08:00	1.47 NTU	<=5	User-Defined
03/16/2015 07:55	1.38 NTU	<=5	User-Defined
03/24/2015 07:40	1.30 NTU	<=5	User-Defined
03/31/2015 07:51	1.28 NTU	<=5	User-Defined
04/07/2015 08:50	1.27 NTU	<=5	User-Defined
04/14/2015 10:19	1.48 NTU	<=5	User-Defined
04/21/2015 07:50	0.63 NTU	<=5	User-Defined
04/27/2015 08:11	0.97 NTU	<=5	User-Defined
05/12/2015 07:57	0.97 NTU	<=5	User-Defined
05/19/2015 08:36	1.17 NTU	<=5	User-Defined
05/26/2015 07:54	0.95 NTU	<=5	User-Defined
06/09/2015 07:35	0.96 NTU	<=5	User-Defined

Turbidity		Criteria	
06/16/2015 07:50	0.89 NTU	<=5	User-Defined
06/22/2015 07:42	0.80 NTU	<=5	User-Defined
07/07/2015 08:12	1.24 NTU	<=5	User-Defined
07/14/2015 07:54	0.85 NTU	<=5	User-Defined
07/21/2015 08:01	0.89 NTU	<=5	User-Defined
07/27/2015 08:41	0.77 NTU	<=5	User-Defined
08/02/2015 07:50	0.79 NTU	<=5	User-Defined
08/03/2015 08:03	0.78 NTU	<=5	User-Defined
08/11/2015 08:29	0.69 NTU	<=5	User-Defined
08/18/2015 07:54	0.91 NTU	<=5	User-Defined
08/25/2015 07:38	0.95 NTU	<=5	User-Defined
09/08/2015 08:30	0.88 NTU	<=5	User-Defined
09/15/2015 08:02	1.43 NTU	<=5	User-Defined
09/17/2015 09:50	1.0 NTU	<=5	User-Defined
09/29/2015 08:00	1.33 NTU	<=5	User-Defined
10/06/2015 08:10	1.52 NTU	<=5	User-Defined
10/13/2015 08:11	0.85 NTU	<=5	User-Defined
10/19/2015 08:01	0.89 NTU	<=5	User-Defined
10/27/2015 08:15	1.32 NTU	<=5	User-Defined
11/03/2015 08:00	1.46 NTU	<=5	User-Defined
11/10/2015 08:08	1.81 NTU	<=5	User-Defined
11/16/2015 09:13	1.26 NTU	<=5	User-Defined
11/23/2015 08:36	1.28 NTU	<=5	User-Defined
11/30/2015 08:24	1.39 NTU	<=5	User-Defined
12/07/2015 08:43	1.68 NTU	<=5	User-Defined
12/14/2015 08:14	1.75 NTU	<=5	User-Defined
12/21/2015 08:13	1.83 NTU	<=5	User-Defined

# samples:	46	**min:**	0.63 NTU
# detects:	46	**max:**	1.83 NTU
# non-detects:	0	**avg:**	1.168 NTU (based on 46 numerical results)
# of Exceedences:	0	**95th percentile:**	1.789 NTU

Facility: Reservoirs
Sampling Point: 02 Union Road Pre-Reservoir (13-9-MD, 3362)

Chlorine (free)		Criteria	
01/05/2015 11:15	2.54 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
01/06/2015 08:02	2.34 mg/L	>=0.05	WaterTrax Suggested
01/07/2015 09:00	2.36 mg/L	>=0.05	WaterTrax Suggested
01/09/2015 08:00	2.18 mg/L	>=0.05	WaterTrax Suggested
01/13/2015 07:39	2.33 mg/L	>=0.05	WaterTrax Suggested
01/15/2015 08:30	2.22 mg/L	>=0.05	WaterTrax Suggested
01/19/2015 08:00	2.39 mg/L	>=0.05	WaterTrax Suggested
01/20/2015 07:42	2.24 mg/L	>=0.05	WaterTrax Suggested
01/21/2015 07:50	1.85 mg/L	>=0.05	WaterTrax Suggested
01/22/2015 07:47	2.10 mg/L	>=0.05	WaterTrax Suggested
02/02/2015 07:40	2.60 mg/L	>=0.05	WaterTrax Suggested
02/03/2015 08:22	2.70 mg/L	>=0.05	WaterTrax Suggested
02/04/2015 12:10	2.65 mg/L	>=0.05	WaterTrax Suggested
02/05/2015 08:30	2.61 mg/L	>=0.05	WaterTrax Suggested
02/06/2015 08:17	2.23 mg/L	>=0.05	WaterTrax Suggested
02/11/2015 12:50	2.46 mg/L	>=0.05	WaterTrax Suggested
02/12/2015 11:00	2.01 mg/L	>=0.05	WaterTrax Suggested
02/13/2015 07:30	2.77 mg/L	>=0.05	WaterTrax Suggested
02/16/2015 07:55	2.21 mg/L	>=0.05	WaterTrax Suggested
02/17/2015 12:50	2.08 mg/L	>=0.05	WaterTrax Suggested
02/18/2015 08:00	2.45 mg/L	>=0.05	WaterTrax Suggested
02/23/2015 10:50	2.07 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
02/24/2015 07:55	2.32 mg/L	>=0.05	WaterTrax Suggested
03/03/2015 07:20	2.16 mg/L	>=0.05	WaterTrax Suggested
03/10/2015 08:00	2.52 mg/L	>=0.05	WaterTrax Suggested
03/16/2015 07:55	2.26 mg/L	>=0.05	WaterTrax Suggested
03/24/2015 07:40	2.23 mg/L	>=0.05	WaterTrax Suggested
03/31/2015 07:51	2.38 mg/L	>=0.05	WaterTrax Suggested
04/07/2015 08:50	2.45 mg/L	>=0.05	WaterTrax Suggested
04/14/2015 10:19	2.39 mg/L	>=0.05	WaterTrax Suggested
04/21/2015 07:50	2.85 mg/L	>=0.05	WaterTrax Suggested
04/27/2015 08:11	2.69 mg/L	>=0.05	WaterTrax Suggested
05/05/2015 08:14	3.01 mg/L	>=0.05	WaterTrax Suggested
05/12/2015 07:57	3.34 mg/L	>=0.05	WaterTrax Suggested
05/19/2015 08:36	3.55 mg/L	>=0.05	WaterTrax Suggested
05/26/2015 07:54	2.5 mg/L	>=0.05	WaterTrax Suggested
06/09/2015 07:35	3.34 mg/L	>=0.05	WaterTrax Suggested
06/16/2015 07:50	3.12 mg/L	>=0.05	WaterTrax Suggested
06/22/2015 07:42	3.53 mg/L	>=0.05	WaterTrax Suggested
06/30/2015 07:40	3.61 mg/L	>=0.05	WaterTrax Suggested
07/07/2015 08:12	3.14 mg/L	>=0.05	WaterTrax Suggested
07/14/2015 07:54	3.77 mg/L	>=0.05	WaterTrax Suggested
07/21/2015 08:01	3.81 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
07/27/2015 08:41	3.79 mg/L	>=0.05	WaterTrax Suggested
08/02/2015 07:50	3.60 mg/L	>=0.05	WaterTrax Suggested
08/03/2015 08:03	3.54 mg/L	>=0.05	WaterTrax Suggested
08/11/2015 08:29	3.51 mg/L	>=0.05	WaterTrax Suggested
08/18/2015 07:54	4.28 mg/L	>=0.05	WaterTrax Suggested
08/25/2015 07:38	3.55 mg/L	>=0.05	WaterTrax Suggested
09/08/2015 08:30	3.77 mg/L	>=0.05	WaterTrax Suggested
09/15/2015 08:02	3.54 mg/L	>=0.05	WaterTrax Suggested
09/21/2015 08:21	3.49 mg/L	>=0.05	WaterTrax Suggested
09/29/2015 08:00	3.38 mg/L	>=0.05	WaterTrax Suggested
10/01/2015 08:17	3.88 mg/L	>=0.05	WaterTrax Suggested
10/06/2015 08:10	3.60 mg/L	>=0.05	WaterTrax Suggested
10/13/2015 08:11	2.79 mg/L	>=0.05	WaterTrax Suggested
10/19/2015 08:01	2.56 mg/L	>=0.05	WaterTrax Suggested
10/27/2015 08:15	2.24 mg/L	>=0.05	WaterTrax Suggested
11/03/2015 08:00	2.39 mg/L	>=0.05	WaterTrax Suggested
11/10/2015 08:08	2.28 mg/L	>=0.05	WaterTrax Suggested
11/16/2015 09:13	2.53 mg/L	>=0.05	WaterTrax Suggested
11/23/2015 08:36	2.77 mg/L	>=0.05	WaterTrax Suggested
11/30/2015 08:24	2.48 mg/L	>=0.05	WaterTrax Suggested
12/07/2015 08:43	2.42 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
12/14/2015 08:14	2.63 mg/L	>=0.05	WaterTrax Suggested
12/21/2015 08:13	2.22 mg/L	>=0.05	WaterTrax Suggested
12/29/2015 07:31	3.12 mg/L	>=0.05	WaterTrax Suggested

# samples:	67	**min:**	1.85 mg/L
# detects:	67	**max:**	4.28 mg/L
# non-detects:	0	**avg:**	2.787 mg/L (based on 67 numerical results)
# of Exceedences:	0		

Color (apparent)		**Criteria**	
01/13/2015 07:39	10 ACU	<=15	User-Defined
*** 01/20/2015 07:42**	**23 ACU**	**<=15**	**User-Defined**
02/03/2015 08:22	3 ACU	<=15	User-Defined
*** 02/16/2015 07:55**	**25 ACU**	**<=15**	**User-Defined**
*** 02/24/2015 07:55**	**20 ACU**	**<=15**	**User-Defined**
*** 03/03/2015 07:20**	**24 ACU**	**<=15**	**User-Defined**
*** 03/10/2015 08:00**	**17 ACU**	**<=15**	**User-Defined**
03/16/2015 07:55	14 ACU	<=15	User-Defined
*** 03/24/2015 07:40**	**16 ACU**	**<=15**	**User-Defined**
03/31/2015 07:51	12 ACU	<=15	User-Defined
*** 04/07/2015 08:50**	**23 ACU**	**<=15**	**User-Defined**
04/14/2015 10:19	13 ACU	<=15	User-Defined
04/21/2015 07:50	15 ACU	<=15	User-Defined
*** 04/27/2015 08:11**	**20 ACU**	**<=15**	**User-Defined**
05/05/2015 08:14	6 ACU	<=15	User-Defined
05/12/2015 07:57	9 ACU	<=15	User-Defined
05/19/2015 08:36	14 ACU	<=15	User-Defined
*** 05/26/2015 07:54**	**18 ACU**	**<=15**	**User-Defined**
06/09/2015 07:35	9 ACU	<=15	User-Defined

Color (apparent)		Criteria	
*** 06/16/2015 07:50**	**17 ACU**	**<=15**	**User-Defined**
06/22/2015 07:42	15 ACU	<=15	User-Defined
07/07/2015 08:12	8 ACU	<=15	User-Defined
*** 07/14/2015 07:54**	**23 ACU**	**<=15**	**User-Defined**
07/21/2015 08:01	15 ACU	<=15	User-Defined
07/27/2015 08:41	12 ACU	<=15	User-Defined
08/02/2015 07:50	4 ACU	<=15	User-Defined
08/03/2015 08:03	9 ACU	<=15	User-Defined
08/11/2015 08:29	13 ACU	<=15	User-Defined
08/18/2015 07:54	12 ACU	<=15	User-Defined
*** 08/25/2015 07:38**	**22 ACU**	**<=15**	**User-Defined**
09/08/2015 08:30	15 ACU	<=15	User-Defined
*** 09/15/2015 08:02**	**21 ACU**	**<=15**	**User-Defined**
*** 09/29/2015 08:00**	**24 ACU**	**<=15**	**User-Defined**
*** 10/06/2015 08:10**	**18 ACU**	**<=15**	**User-Defined**
*** 10/13/2015 08:11**	**16 ACU**	**<=15**	**User-Defined**
10/19/2015 08:01	15 ACU	<=15	User-Defined
*** 11/10/2015 08:08**	**19 ACU**	**<=15**	**User-Defined**
11/16/2015 09:13	15 ACU	<=15	User-Defined
*** 11/23/2015 08:36**	**16 ACU**	**<=15**	**User-Defined**
*** 11/30/2015 08:24**	**35 ACU**	**<=15**	**User-Defined**
*** 12/07/2015 08:43**	**30 ACU**	**<=15**	**User-Defined**
*** 12/14/2015 08:14**	**36 ACU**	**<=15**	**User-Defined**
*** 12/21/2015 08:13**	**31 ACU**	**<=15**	**User-Defined**

# samples:	43	**min:**	3 ACU
# detects:	43	**max:**	36 ACU
# non-detects:	0	**avg:**	17.023 ACU (based on 43 numerical results)
# of Exceedences:	22		

Escherichia coli / E. coli (counts)		Criteria	
01/13/2015 07:39	< 1 counts/100mL	<=0, P	Microbiological Standard
01/20/2015 07:42	< 1 counts/100mL	<=0, P	Microbiological Standard
01/27/2015 08:40	ND counts/100mL	<=0, P	Microbiological Standard
02/03/2015 08:22	< 1 counts/100mL	<=0, P	Microbiological Standard
02/10/2015 07:51	< 1 counts/100mL	<=0, P	Microbiological Standard
02/16/2015 07:55	< 1 counts/100mL	<=0, P	Microbiological Standard
02/24/2015 10:27	< 1 counts/100mL	<=0, P	Microbiological Standard
03/03/2015 07:40	< 1 counts/100mL	<=0, P	Microbiological Standard
03/10/2015 08:00	< 1 counts/100mL	<=0, P	Microbiological Standard
03/16/2015 07:55	< 1 counts/100mL	<=0, P	Microbiological Standard
03/24/2015 07:40	< 1 counts/100mL	<=0, P	Microbiological Standard
03/31/2015 07:51	< 1 counts/100mL	<=0, P	Microbiological Standard
04/07/2015 09:00	< 1 counts/100mL	<=0, P	Microbiological Standard
04/14/2015 10:19	< 1 counts/100mL	<=0, P	Microbiological Standard
04/21/2015 07:50	< 1 counts/100mL	<=0, P	Microbiological Standard
04/27/2015 08:11	< 1 counts/100mL	<=0, P	Microbiological Standard
05/05/2015 08:14	< 1 counts/100mL	<=0, P	Microbiological Standard
05/12/2015 07:57	< 1 counts/100mL	<=0, P	Microbiological Standard
05/19/2015 08:36	< 1 counts/100mL	<=0, P	Microbiological Standard
05/26/2015 07:54	< 1 counts/100mL	<=0, P	Microbiological Standard
06/02/2015 07:55	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		Criteria	
06/09/2015 07:35	< 1 counts/100mL	<=0, P	Microbiological Standard
06/16/2015 07:50	< 1 counts/100mL	<=0, P	Microbiological Standard
06/22/2015 07:45	< 1 counts/100mL	<=0, P	Microbiological Standard
06/30/2015 07:40	< 1 counts/100mL	<=0, P	Microbiological Standard
07/07/2015 08:12	< 1 counts/100mL	<=0, P	Microbiological Standard
07/14/2015 07:54	< 1 counts/100mL	<=0, P	Microbiological Standard
07/21/2015 07:59	< 1 counts/100mL	<=0, P	Microbiological Standard
07/27/2015 08:44	< 1 counts/100mL	<=0, P	Microbiological Standard
08/04/2015 08:03	< 1 counts/100mL	<=0, P	Microbiological Standard
08/11/2015 08:29	< 1 counts/100mL	<=0, P	Microbiological Standard
08/18/2015 07:54	< 1 counts/100mL	<=0, P	Microbiological Standard
08/25/2015 07:46	< 1 counts/100mL	<=0, P	Microbiological Standard
09/01/2015 08:18	< 1 counts/100mL	<=0, P	Microbiological Standard
09/08/2015 08:30	< 1 counts/100mL	<=0, P	Microbiological Standard
09/15/2015 08:02	< 1 counts/100mL	<=0, P	Microbiological Standard
09/21/2015 08:21	< 1 counts/100mL	<=0, P	Microbiological Standard
09/29/2015 08:00	< 1 counts/100mL	<=0, P	Microbiological Standard
10/06/2015 08:10	< 1 counts/100mL	<=0, P	Microbiological Standard
10/13/2015 08:11	< 1 counts/100mL	<=0, P	Microbiological Standard
10/19/2015 08:01	< 1 counts/100mL	<=0, P	Microbiological Standard
10/27/2015 08:20	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		Criteria	
11/03/2015 08:00	< 1 counts/100mL	<=0, P	Microbiological Standard
11/10/2015 08:08	< 1 counts/100mL	<=0, P	Microbiological Standard
11/16/2015 09:15	< 1 counts/100mL	<=0, P	Microbiological Standard
11/23/2015 08:36	< 1 counts/100mL	<=0, P	Microbiological Standard
11/30/2015 08:30	< 1 counts/100mL	<=0, P	Microbiological Standard
12/07/2015 08:43	< 1 counts/100mL	<=0, P	Microbiological Standard
12/14/2015 08:15	< 1 counts/100mL	<=0, P	Microbiological Standard
12/21/2015 08:13	< 1 counts/100mL	<=0, P	Microbiological Standard
12/29/2015 07:31	< 1 counts/100mL	<=0, P	Microbiological Standard

# samples:	51	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	51	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Total Coliforms (counts)		Criteria	
01/13/2015 07:39	< 1 counts/100mL	<=10	User-Defined
01/20/2015 07:42	< 1 counts/100mL	<=10	User-Defined
01/27/2015 08:40	ND counts/100mL	<=10	User-Defined
02/03/2015 08:22	< 1 counts/100mL	<=10	User-Defined
02/10/2015 07:51	< 1 counts/100mL	<=10	User-Defined
02/16/2015 07:55	< 1 counts/100mL	<=10	User-Defined
02/24/2015 10:27	< 1 counts/100mL	<=10	User-Defined
03/03/2015 07:40	< 1 counts/100mL	<=10	User-Defined
03/10/2015 08:00	< 1 counts/100mL	<=10	User-Defined
03/16/2015 07:55	< 1 counts/100mL	<=10	User-Defined
03/24/2015 07:40	< 1 counts/100mL	<=10	User-Defined
03/31/2015 07:51	< 1 counts/100mL	<=10	User-Defined
04/07/2015 09:00	< 1 counts/100mL	<=10	User-Defined
04/14/2015 10:19	< 1 counts/100mL	<=10	User-Defined
04/21/2015 07:50	< 1 counts/100mL	<=10	User-Defined
04/27/2015 08:11	< 1 counts/100mL	<=10	User-Defined

Total Coliforms (counts)		Criteria	
05/05/2015 08:14	< 1 counts/100mL	<=10	User-Defined
05/12/2015 07:57	< 1 counts/100mL	<=10	User-Defined
05/19/2015 08:36	< 1 counts/100mL	<=10	User-Defined
05/26/2015 07:54	< 1 counts/100mL	<=10	User-Defined
06/02/2015 07:55	< 1 counts/100mL	<=10	User-Defined
06/09/2015 07:35	< 1 counts/100mL	<=10	User-Defined
06/16/2015 07:50	< 1 counts/100mL	<=10	User-Defined
06/22/2015 07:45	< 1 counts/100mL	<=10	User-Defined
06/30/2015 07:40	< 1 counts/100mL	<=10	User-Defined
07/07/2015 08:12	< 1 counts/100mL	<=10	User-Defined
07/14/2015 07:54	< 1 counts/100mL	<=10	User-Defined
07/21/2015 07:59	< 1 counts/100mL	<=10	User-Defined
07/27/2015 08:44	< 1 counts/100mL	<=10	User-Defined
08/04/2015 08:03	< 1 counts/100mL	<=10	User-Defined
08/11/2015 08:29	< 1 counts/100mL	<=10	User-Defined
08/18/2015 07:54	< 1 counts/100mL	<=10	User-Defined
08/25/2015 07:46	< 1 counts/100mL	<=10	User-Defined
09/01/2015 08:18	< 1 counts/100mL	<=10	User-Defined
09/08/2015 08:30	< 1 counts/100mL	<=10	User-Defined
09/15/2015 08:02	< 1 counts/100mL	<=10	User-Defined
09/21/2015 08:21	< 1 counts/100mL	<=10	User-Defined
09/29/2015 08:00	< 1 counts/100mL	<=10	User-Defined
10/06/2015 08:10	< 1 counts/100mL	<=10	User-Defined
10/13/2015 08:11	< 1 counts/100mL	<=10	User-Defined
10/19/2015 08:01	< 1 counts/100mL	<=10	User-Defined
10/27/2015 08:20	< 1 counts/100mL	<=10	User-Defined
11/03/2015 08:00	< 1 counts/100mL	<=10	User-Defined
11/10/2015 08:08	< 1 counts/100mL	<=10	User-Defined
11/16/2015 09:15	< 1 counts/100mL	<=10	User-Defined
11/23/2015 08:36	< 1 counts/100mL	<=10	User-Defined
11/30/2015 08:30	< 1 counts/100mL	<=10	User-Defined
12/07/2015 08:43	< 1 counts/100mL	<=10	User-Defined
12/14/2015 08:15	< 1 counts/100mL	<=10	User-Defined
12/21/2015 08:13	< 1 counts/100mL	<=10	User-Defined
12/29/2015 07:31	< 1 counts/100mL	<=10	User-Defined

# samples:	51	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	51	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Turbidity		Criteria	
01/13/2015 07:39	0.90 NTU	<=5	User-Defined
01/20/2015 07:42	1.22 NTU	<=5	User-Defined
02/03/2015 08:22	1.10 NTU	<=5	User-Defined
02/16/2015 07:55	1.34 NTU	<=5	User-Defined
02/24/2015 07:55	1.35 NTU	<=5	User-Defined
03/03/2015 07:20	1.33 NTU	<=5	User-Defined
03/10/2015 08:00	1.54 NTU	<=5	User-Defined
03/16/2015 07:55	1.51 NTU	<=5	User-Defined
03/24/2015 07:40	1.14 NTU	<=5	User-Defined
03/31/2015 07:51	1.10 NTU	<=5	User-Defined
04/07/2015 08:50	1.32 NTU	<=5	User-Defined
04/14/2015 10:19	1.18 NTU	<=5	User-Defined
04/21/2015 07:50	0.73 NTU	<=5	User-Defined
04/27/2015 08:11	0.95 NTU	<=5	User-Defined
05/05/2015 08:14	0.97 NTU	<=5	User-Defined
05/12/2015 07:57	0.88 NTU	<=5	User-Defined
05/19/2015 08:36	1.36 NTU	<=5	User-Defined
05/26/2015 07:54	1.05 NTU	<=5	User-Defined
06/09/2015 07:35	0.97 NTU	<=5	User-Defined
06/16/2015 07:50	0.99 NTU	<=5	User-Defined
06/22/2015 07:42	0.92 NTU	<=5	User-Defined
07/07/2015 08:12	1.07 NTU	<=5	User-Defined
07/14/2015 07:54	0.88 NTU	<=5	User-Defined
07/21/2015 08:01	0.77 NTU	<=5	User-Defined
07/27/2015 08:41	0.99 NTU	<=5	User-Defined
08/02/2015 07:50	0.75 NTU	<=5	User-Defined
08/03/2015 08:03	0.90 NTU	<=5	User-Defined
08/11/2015 08:29	0.78 NTU	<=5	User-Defined
08/18/2015 07:54	0.90 NTU	<=5	User-Defined
08/25/2015 07:38	1.01 NTU	<=5	User-Defined
09/08/2015 08:30	1.27 NTU	<=5	User-Defined
09/15/2015 08:02	1.53 NTU	<=5	User-Defined
09/29/2015 08:00	1.49 NTU	<=5	User-Defined
10/06/2015 08:10	0.79 NTU	<=5	User-Defined
10/13/2015 08:11	1.49 NTU	<=5	User-Defined
10/19/2015 08:01	1.17 NTU	<=5	User-Defined
10/27/2015 08:15	1.26 NTU	<=5	User-Defined
11/03/2015 08:00	1.12 NTU	<=5	User-Defined
11/10/2015 08:08	1.31 NTU	<=5	User-Defined

Turbidity		Criteria	
11/16/2015 09:13	1.32 NTU	<=5	User-Defined
11/23/2015 08:36	1.26 NTU	<=5	User-Defined
11/30/2015 08:24	1.36 NTU	<=5	User-Defined
12/07/2015 08:43	1.43 NTU	<=5	User-Defined
12/14/2015 08:14	1.53 NTU	<=5	User-Defined
12/21/2015 08:13	1.84 NTU	<=5	User-Defined

# samples:	45	**min:**	0.73 NTU
# detects:	45	**max:**	1.84 NTU
# non-detects:	0	**avg:**	1.157 NTU (based on 45 numerical results)
# of Exceedences:	0	**95th percentile:**	1.537 NTU

Facility: Reservoirs
Sampling Point: 03 Big Rock Reservoir (13-7-MD, 287C0)

Chlorine (free)		Criteria	
01/05/2015 10:50	1.16 mg/L	>=0.05	WaterTrax Suggested
01/06/2015 08:38	1.20 mg/L	>=0.05	WaterTrax Suggested
01/07/2015 09:15	2.05 mg/L	>=0.05	WaterTrax Suggested
01/09/2015 08:15	1.11 mg/L	>=0.05	WaterTrax Suggested
01/13/2015 08:05	1.11 mg/L	>=0.05	WaterTrax Suggested
01/15/2015 08:55	1.09 mg/L	>=0.05	WaterTrax Suggested
01/19/2015 08:20	1.06 mg/L	>=0.05	WaterTrax Suggested
01/20/2015 08:01	1.05 mg/L	>=0.05	WaterTrax Suggested
01/21/2015 08:10	1.12 mg/L	>=0.05	WaterTrax Suggested
01/22/2015 08:05	1.26 mg/L	>=0.05	WaterTrax Suggested
02/02/2015 08:10	0.94 mg/L	>=0.05	WaterTrax Suggested
02/04/2015 08:45	0.85 mg/L	>=0.05	WaterTrax Suggested
02/05/2015 08:50	0.96 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
02/06/2015 08:30	0.93 mg/L	>=0.05	WaterTrax Suggested
02/11/2015 13:00	0.82 mg/L	>=0.05	WaterTrax Suggested
02/12/2015 11:20	0.99 mg/L	>=0.05	WaterTrax Suggested
02/13/2015 07:50	0.89 mg/L	>=0.05	WaterTrax Suggested
02/16/2015 08:29	0.94 mg/L	>=0.05	WaterTrax Suggested
02/17/2015 13:10	0.88 mg/L	>=0.05	WaterTrax Suggested
02/18/2015 08:20	0.91 mg/L	>=0.05	WaterTrax Suggested
02/23/2015 11:10	0.86 mg/L	>=0.05	WaterTrax Suggested
02/24/2015 08:15	0.81 mg/L	>=0.05	WaterTrax Suggested
03/03/2015 08:07	1.82 mg/L	>=0.05	WaterTrax Suggested
03/10/2015 08:30	1.60 mg/L	>=0.05	WaterTrax Suggested
03/16/2015 08:18	1.31 mg/L	>=0.05	WaterTrax Suggested
03/24/2015 08:06	1.19 mg/L	>=0.05	WaterTrax Suggested
03/31/2015 08:19	1.26 mg/L	>=0.05	WaterTrax Suggested
04/07/2015 09:20	0.93 mg/L	>=0.05	WaterTrax Suggested
04/14/2015 10:46	0.98 mg/L	>=0.05	WaterTrax Suggested
04/21/2015 08:17	1.19 mg/L	>=0.05	WaterTrax Suggested
04/27/2015 08:32	2.42 mg/L	>=0.05	WaterTrax Suggested
05/05/2015 08:43	1.51 mg/L	>=0.05	WaterTrax Suggested
05/12/2015 08:57	3.13 mg/L	>=0.05	WaterTrax Suggested
05/19/2015 09:04	3.41 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
05/26/2015 08:24	3.27 mg/L	>=0.05	WaterTrax Suggested
06/09/2015 08:06	3.19 mg/L	>=0.05	WaterTrax Suggested
06/16/2015 08:20	1.72 mg/L	>=0.05	WaterTrax Suggested
06/22/2015 08:04	1.72 mg/L	>=0.05	WaterTrax Suggested
06/30/2015 08:08	3.03 mg/L	>=0.05	WaterTrax Suggested
07/07/2015 08:35	2.84 mg/L	>=0.05	WaterTrax Suggested
07/14/2015 08:23	3.37 mg/L	>=0.05	WaterTrax Suggested
07/21/2015 08:23	2.14 mg/L	>=0.05	WaterTrax Suggested
07/27/2015 09:09	3.42 mg/L	>=0.05	WaterTrax Suggested
08/02/2015 08:20	3.09 mg/L	>=0.05	WaterTrax Suggested
08/03/2015 08:28	1.58 mg/L	>=0.05	WaterTrax Suggested
08/11/2015 08:58	3.08 mg/L	>=0.05	WaterTrax Suggested
08/18/2015 08:25	1.75 mg/L	>=0.05	WaterTrax Suggested
08/25/2015 08:16	3.52 mg/L	>=0.05	WaterTrax Suggested
09/08/2015 09:03	2.02 mg/L	>=0.05	WaterTrax Suggested
09/15/2015 08:25	3.49 mg/L	>=0.05	WaterTrax Suggested
09/21/2015 08:42	1.43 mg/L	>=0.05	WaterTrax Suggested
09/29/2015 08:26	3.17 mg/L	>=0.05	WaterTrax Suggested
10/01/2015 08:48	1.74 mg/L	>=0.05	WaterTrax Suggested
10/06/2015 08:45	1.58 mg/L	>=0.05	WaterTrax Suggested
10/13/2015 08:35	2.57 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
10/19/2015 08:26	0.92 mg/L	>=0.05	WaterTrax Suggested
10/27/2015 08:42	0.93 mg/L	>=0.05	WaterTrax Suggested
11/03/2015 08:30	0.90 mg/L	>=0.05	WaterTrax Suggested
11/10/2015 09:38	0.52 mg/L	>=0.05	WaterTrax Suggested
11/16/2015 09:46	0.58 mg/L	>=0.05	WaterTrax Suggested
11/23/2015 09:05	2.28 mg/L	>=0.05	WaterTrax Suggested
11/30/2015 08:56	1.39 mg/L	>=0.05	WaterTrax Suggested
12/07/2015 09:14	1.15 mg/L	>=0.05	WaterTrax Suggested
12/14/2015 08:46	0.98 mg/L	>=0.05	WaterTrax Suggested
12/21/2015 08:42	0.80 mg/L	>=0.05	WaterTrax Suggested
12/29/2015 07:55	2.40 mg/L	>=0.05	WaterTrax Suggested

# samples:	66	**min:**	0.52 mg/L
# detects:	66	**max:**	3.52 mg/L
# non-detects:	0	**avg:**	1.671 mg/L (based on 66 numerical results)
# of Exceedences:	0		

Color (apparent)		**Criteria**	
01/06/2015 08:38	15 ACU	<=15	User-Defined
01/13/2015 08:05	12 ACU	<=15	User-Defined
01/20/2015 08:01	5 ACU	<=15	User-Defined
02/03/2015 08:43	1.33 ACU	<=15	User-Defined
*** 02/16/2015 08:29**	**25 ACU**	**<=15**	**User-Defined**
*** 02/24/2015 08:15**	**16 ACU**	**<=15**	**User-Defined**
*** 03/03/2015 08:07**	**16 ACU**	**<=15**	**User-Defined**
03/10/2015 08:30	9 ACU	<=15	User-Defined
03/16/2015 08:18	11 ACU	<=15	User-Defined
03/24/2015 08:06	15 ACU	<=15	User-Defined

Color (apparent)		Criteria	
03/31/2015 08:19	5 ACU	<=15	User-Defined
04/07/2015 09:20	11 ACU	<=15	User-Defined
*** 04/14/2015 10:46**	**18 ACU**	**<=15**	**User-Defined**
04/21/2015 08:17	14 ACU	<=15	User-Defined
*** 04/27/2015 08:32**	**21 ACU**	**<=15**	**User-Defined**
*** 05/05/2015 08:43**	**19 ACU**	**<=15**	**User-Defined**
05/12/2015 08:57	6 ACU	<=15	User-Defined
*** 05/19/2015 09:04**	**18 ACU**	**<=15**	**User-Defined**
05/26/2015 08:24	10 ACU	<=15	User-Defined
06/09/2015 08:06	3 ACU	<=15	User-Defined
06/16/2015 08:20	3 ACU	<=15	User-Defined
06/22/2015 08:04	8 ACU	<=15	User-Defined
07/07/2015 08:35	14 ACU	<=15	User-Defined
*** 07/14/2015 08:23**	**16 ACU**	**<=15**	**User-Defined**
07/21/2015 08:23	15 ACU	<=15	User-Defined
07/27/2015 09:09	10 ACU	<=15	User-Defined
08/02/2015 08:20	14 ACU	<=15	User-Defined
08/03/2015 08:28	9 ACU	<=15	User-Defined
*** 08/11/2015 08:58**	**18 ACU**	**<=15**	**User-Defined**
08/18/2015 08:25	3 ACU	<=15	User-Defined
08/25/2015 08:16	15 ACU	<=15	User-Defined
09/08/2015 09:03	9 ACU	<=15	User-Defined
09/15/2015 08:25	13 ACU	<=15	User-Defined
*** 09/29/2015 08:26**	**19 ACU**	**<=15**	**User-Defined**
*** 10/06/2015 08:45**	**22 ACU**	**<=15**	**User-Defined**
*** 10/13/2015 08:35**	**23 ACU**	**<=15**	**User-Defined**
10/19/2015 08:26	9 ACU	<=15	User-Defined
11/10/2015 09:38	13 ACU	<=15	User-Defined
11/16/2015 09:46	13 ACU	<=15	User-Defined
11/23/2015 09:05	13 ACU	<=15	User-Defined
*** 11/30/2015 08:56**	**24 ACU**	**<=15**	**User-Defined**

Color (apparent)		**Criteria**	
*** 12/07/2015 09:14**	**30 ACU**	**<=15**	**User-Defined**
*** 12/14/2015 08:46**	**19 ACU**	**<=15**	**User-Defined**
*** 12/21/2015 08:42**	**28 ACU**	**<=15**	**User-Defined**

# samples:	44	**min:**	1.33 ACU
# detects:	44	**max:**	30 ACU
# non-detects:	0	**avg:**	13.871 ACU (based on 44 numerical results)
# of Exceedences:	16		

Escherichia coli / E. coli (counts)		**Criteria**	
01/06/2015 08:38	< 1 counts/100mL	<=0, P	Microbiological Standard
01/20/2015 08:01	< 1 counts/100mL	<=0, P	Microbiological Standard
02/10/2015 08:19	< 1 counts/100mL	<=0, P	Microbiological Standard
02/24/2015 10:39	< 1 counts/100mL	<=0, P	Microbiological Standard
03/10/2015 08:30	< 1 counts/100mL	<=0, P	Microbiological Standard
03/24/2015 08:06	< 1 counts/100mL	<=0, P	Microbiological Standard
04/07/2015 09:25	< 1 counts/100mL	<=0, P	Microbiological Standard
04/21/2015 08:17	< 1 counts/100mL	<=0, P	Microbiological Standard
05/12/2015 08:27	< 1 counts/100mL	<=0, P	Microbiological Standard
05/26/2015 08:24	< 1 counts/100mL	<=0, P	Microbiological Standard
06/09/2015 08:06	< 1 counts/100mL	<=0, P	Microbiological Standard
06/22/2015 08:04	< 1 counts/100mL	<=0, P	Microbiological Standard
07/07/2015 08:35	< 1 counts/100mL	<=0, P	Microbiological Standard
07/27/2015 09:09	< 1 counts/100mL	<=0, P	Microbiological Standard
08/11/2015 08:50	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		Criteria	
08/25/2015 08:05	< 1 counts/100mL	<=0, P	Microbiological Standard
09/08/2015 09:03	< 1 counts/100mL	<=0, P	Microbiological Standard
09/21/2015 08:42	< 1 counts/100mL	<=0, P	Microbiological Standard
10/06/2015 08:45	< 1 counts/100mL	<=0, P	Microbiological Standard
10/19/2015 08:26	< 1 counts/100mL	<=0, P	Microbiological Standard
11/03/2015 08:30	< 1 counts/100mL	<=0, P	Microbiological Standard
11/16/2015 09:45	< 1 counts/100mL	<=0, P	Microbiological Standard
11/30/2015 08:56	< 1 counts/100mL	<=0, P	Microbiological Standard
12/14/2015 08:46	< 1 counts/100mL	<=0, P	Microbiological Standard
12/29/2015 07:57	< 1 counts/100mL	<=0, P	Microbiological Standard

# samples:	25	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	25	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

pH		Criteria	
02/03/2015 08:43	14		

# samples:	1	**min:**	14
# detects:	1	**max:**	14
# non-detects:	0	**avg:**	14.000 (based on 1 numerical results)
# of Exceedences:	0		

Total Coliforms (counts)		Criteria	
01/06/2015 08:38	< 1 counts/100mL	<=10	User-Defined
01/20/2015 08:01	< 1 counts/100mL	<=10	User-Defined
02/10/2015 08:19	< 1 counts/100mL	<=10	User-Defined
02/24/2015 10:39	< 1 counts/100mL	<=10	User-Defined
03/10/2015 08:30	< 1 counts/100mL	<=10	User-Defined
03/24/2015 08:06	< 1 counts/100mL	<=10	User-Defined
04/07/2015 09:25	< 1 counts/100mL	<=10	User-Defined

Total Coliforms (counts)		Criteria	
04/21/2015 08:17	< 1 counts/100mL	<=10	User-Defined
05/12/2015 08:27	< 1 counts/100mL	<=10	User-Defined
05/26/2015 08:24	< 1 counts/100mL	<=10	User-Defined
06/09/2015 08:06	< 1 counts/100mL	<=10	User-Defined
06/22/2015 08:04	< 1 counts/100mL	<=10	User-Defined
07/07/2015 08:35	< 1 counts/100mL	<=10	User-Defined
07/27/2015 09:09	< 1 counts/100mL	<=10	User-Defined
08/11/2015 08:50	< 1 counts/100mL	<=10	User-Defined
08/25/2015 08:05	< 1 counts/100mL	<=10	User-Defined
09/08/2015 09:03	< 1 counts/100mL	<=10	User-Defined
09/21/2015 08:42	< 1 counts/100mL	<=10	User-Defined
10/06/2015 08:45	< 1 counts/100mL	<=10	User-Defined
10/19/2015 08:26	< 1 counts/100mL	<=10	User-Defined
11/03/2015 08:30	< 1 counts/100mL	<=10	User-Defined
11/16/2015 09:45	< 1 counts/100mL	<=10	User-Defined
11/30/2015 08:56	< 1 counts/100mL	<=10	User-Defined
12/14/2015 08:46	< 1 counts/100mL	<=10	User-Defined
12/29/2015 07:57	< 1 counts/100mL	<=10	User-Defined

# samples:	25	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	25	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Turbidity		Criteria	
01/06/2015 08:38	1.11 NTU	<=5	User-Defined
01/13/2015 08:05	1.16 NTU	<=5	User-Defined
01/20/2015 08:01	1.02 NTU	<=5	User-Defined
02/03/2015 08:43	1.01 NTU	<=5	User-Defined
02/16/2015 08:29	1.25 NTU	<=5	User-Defined
02/24/2015 08:15	1.02 NTU	<=5	User-Defined
03/03/2015 08:07	1.37 NTU	<=5	User-Defined
03/10/2015 08:30	1.01 NTU	<=5	User-Defined
03/16/2015 08:18	1.11 NTU	<=5	User-Defined
03/24/2015 08:06	1.03 NTU	<=5	User-Defined
03/31/2015 08:19	0.96 NTU	<=5	User-Defined
04/07/2015 09:20	1.02 NTU	<=5	User-Defined
04/14/2015 10:46	1.35 NTU	<=5	User-Defined
04/21/2015 08:17	0.93 NTU	<=5	User-Defined
04/27/2015 08:32	0.99 NTU	<=5	User-Defined

Turbidity		Criteria	
05/05/2015 08:43	1.37 NTU	<=5	User-Defined
05/12/2015 08:57	0.85 NTU	<=5	User-Defined
05/19/2015 09:04	1.19 NTU	<=5	User-Defined
05/26/2015 08:24	0.96 NTU	<=5	User-Defined
06/09/2015 08:06	0.96 NTU	<=5	User-Defined
06/16/2015 08:20	0.74 NTU	<=5	User-Defined
06/22/2015 08:04	0.79 NTU	<=5	User-Defined
07/07/2015 08:35	1.41 NTU	<=5	User-Defined
07/14/2015 08:23	0.82 NTU	<=5	User-Defined
07/21/2015 08:23	1.07 NTU	<=5	User-Defined
07/27/2015 09:09	0.78 NTU	<=5	User-Defined
08/02/2015 08:20	0.82 NTU	<=5	User-Defined
08/03/2015 08:28	0.72 NTU	<=5	User-Defined
08/11/2015 08:58	0.72 NTU	<=5	User-Defined
08/18/2015 08:25	0.65 NTU	<=5	User-Defined
08/25/2015 08:16	1.17 NTU	<=5	User-Defined
09/08/2015 09:03	0.90 NTU	<=5	User-Defined
09/15/2015 08:25	1.44 NTU	<=5	User-Defined
09/29/2015 08:26	1.34 NTU	<=5	User-Defined
10/06/2015 08:45	0.98 NTU	<=5	User-Defined
10/13/2015 08:35	1.12 NTU	<=5	User-Defined
10/19/2015 08:26	0.88 NTU	<=5	User-Defined
10/27/2015 08:42	0.96 NTU	<=5	User-Defined
11/03/2015 08:30	1.18 NTU	<=5	User-Defined
11/10/2015 09:38	1.49 NTU	<=5	User-Defined
11/16/2015 09:46	1.03 NTU	<=5	User-Defined
11/23/2015 09:05	1.15 NTU	<=5	User-Defined
11/30/2015 08:56	1.02 NTU	<=5	User-Defined
12/07/2015 09:14	1.09 NTU	<=5	User-Defined
12/14/2015 08:46	1.16 NTU	<=5	User-Defined
12/21/2015 08:42	1.22 NTU	<=5	User-Defined

# samples:	46	**min:**	0.65 NTU
# detects:	46	**max:**	1.49 NTU
# non-detects:	0	**avg:**	1.050 NTU (based on 46 numerical results)
# of Exceedences:	0	**95th percentile:**	1.430 NTU

Facility:	Reservoirs
Sampling Point:	05 Quail Reservoir (13-1-MD, 287BA)

Chlorine (free)		Criteria	
01/06/2015 13:59	1.13 mg/L	>=0.05	WaterTrax Suggested
01/07/2015 15:00	1.13 mg/L	>=0.05	WaterTrax Suggested
01/09/2015 12:40	1.49 mg/L	>=0.05	WaterTrax Suggested
01/13/2015 13:03	1.14 mg/L	>=0.05	WaterTrax Suggested
01/15/2015 13:40	1.14 mg/L	>=0.05	WaterTrax Suggested
01/19/2015 13:05	1.04 mg/L	>=0.05	WaterTrax Suggested
01/20/2015 12:41	0.95 mg/L	>=0.05	WaterTrax Suggested
01/21/2015 12:00	0.91 mg/L	>=0.05	WaterTrax Suggested
01/22/2015 12:35	0.96 mg/L	>=0.05	WaterTrax Suggested
02/02/2015 10:50	0.85 mg/L	>=0.05	WaterTrax Suggested
02/03/2015 13:30	0.81 mg/L	>=0.05	WaterTrax Suggested
02/04/2015 14:00	0.83 mg/L	>=0.05	WaterTrax Suggested
02/05/2015 14:10	0.89 mg/L	>=0.05	WaterTrax Suggested
02/06/2015 12:00	0.85 mg/L	>=0.05	WaterTrax Suggested
02/11/2015 12:25	0.85 mg/L	>=0.05	WaterTrax Suggested
02/12/2015 10:35	0.78 mg/L	>=0.05	WaterTrax Suggested
02/13/2015 11:55	0.85 mg/L	>=0.05	WaterTrax Suggested
02/16/2015 13:43	0.87 mg/L	>=0.05	WaterTrax Suggested
02/17/2015 13:45	0.97 mg/L	>=0.05	WaterTrax Suggested
02/18/2015 14:30	0.98 mg/L	>=0.05	WaterTrax Suggested
02/23/2015 14:00	0.94 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
02/24/2015 13:52	1.04 mg/L	>=0.05	WaterTrax Suggested
03/03/2015 13:10	0.89 mg/L	>=0.05	WaterTrax Suggested
03/10/2015 13:27	1.06 mg/L	>=0.05	WaterTrax Suggested
03/16/2015 13:46	1.02 mg/L	>=0.05	WaterTrax Suggested
03/24/2015 13:27	0.93 mg/L	>=0.05	WaterTrax Suggested
03/31/2015 13:20	0.86 mg/L	>=0.05	WaterTrax Suggested
04/07/2015 14:30	0.83 mg/L	>=0.05	WaterTrax Suggested
04/14/2015 13:41	1.40 mg/L	>=0.05	WaterTrax Suggested
04/21/2015 13:14	1.23 mg/L	>=0.05	WaterTrax Suggested
04/27/2015 14:24	1.03 mg/L	>=0.05	WaterTrax Suggested
05/05/2015 13:40	2.15 mg/L	>=0.05	WaterTrax Suggested
05/12/2015 13:21	2.33 mg/L	>=0.05	WaterTrax Suggested
05/19/2015 13:38	1.73 mg/L	>=0.05	WaterTrax Suggested
05/26/2015 13:27	1.83 mg/L	>=0.05	WaterTrax Suggested
06/09/2015 13:18	2.59 mg/L	>=0.05	WaterTrax Suggested
06/16/2015 13:05	2.30 mg/L	>=0.05	WaterTrax Suggested
06/22/2015 12:55	2.36 mg/L	>=0.05	WaterTrax Suggested
06/30/2015 13:30	1.73 mg/L	>=0.05	WaterTrax Suggested
07/07/2015 14:12	1.65 mg/L	>=0.05	WaterTrax Suggested
07/14/2015 13:34	2.65 mg/L	>=0.05	WaterTrax Suggested
07/21/2015 13:45	2.63 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
07/27/2015 14:14	2.36 mg/L	>=0.05	WaterTrax Suggested
08/02/2015 13:23	1.62 mg/L	>=0.05	WaterTrax Suggested
08/03/2015 13:28	2.42 mg/L	>=0.05	WaterTrax Suggested
08/11/2015 13:45	2.47 mg/L	>=0.05	WaterTrax Suggested
08/18/2015 13:43	2.67 mg/L	>=0.05	WaterTrax Suggested
08/25/2015 13:13	2.80 mg/L	>=0.05	WaterTrax Suggested
09/08/2015 14:18	2.49 mg/L	>=0.05	WaterTrax Suggested
09/15/2015 13:17	2.22 mg/L	>=0.05	WaterTrax Suggested
09/21/2015 14:11	1.96 mg/L	>=0.05	WaterTrax Suggested
09/29/2015 13:27	1.92 mg/L	>=0.05	WaterTrax Suggested
10/01/2015 13:24	1.87 mg/L	>=0.05	WaterTrax Suggested
10/06/2015 13:52	1.36 mg/L	>=0.05	WaterTrax Suggested
10/13/2015 13:21	0.83 mg/L	>=0.05	WaterTrax Suggested
10/19/2015 13:21	0.77 mg/L	>=0.05	WaterTrax Suggested
10/27/2015 13:40	0.83 mg/L	>=0.05	WaterTrax Suggested
11/03/2015 13:00	0.90 mg/L	>=0.05	WaterTrax Suggested
11/10/2015 13:43	0.96 mg/L	>=0.05	WaterTrax Suggested
11/16/2015 11:03	1.11 mg/L	>=0.05	WaterTrax Suggested
11/23/2015 13:38	0.89 mg/L	>=0.05	WaterTrax Suggested
12/01/2015 10:38	1.02 mg/L	>=0.05	WaterTrax Suggested
12/07/2015 10:52	1.40 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
12/14/2015 08:40	0.91 mg/L	>=0.05	WaterTrax Suggested
12/21/2015 10:42	1.02 mg/L	>=0.05	WaterTrax Suggested
12/29/2015 11:51	0.99 mg/L	>=0.05	WaterTrax Suggested

# samples:	66	**min:**	0.77 mg/L
# detects:	66	**max:**	2.80 mg/L
# non-detects:	0	**avg:**	1.400 mg/L (based on 66 numerical results)
# of Exceedences:	0		

Color (apparent)		**Criteria**	
01/06/2015 13:59	13 ACU	<=15	User-Defined
01/13/2015 13:03	13 ACU	<=15	User-Defined
01/20/2015 12:41	14 ACU	<=15	User-Defined
02/03/2015 13:30	11 ACU	<=15	User-Defined
*** 02/16/2015 13:43**	**37 ACU**	**<=15**	**User-Defined**
02/24/2015 13:52	15 ACU	<=15	User-Defined
*** 03/03/2015 13:10**	**17 ACU**	**<=15**	**User-Defined**
*** 03/10/2015 13:27**	**19 ACU**	**<=15**	**User-Defined**
03/16/2015 13:46	12 ACU	<=15	User-Defined
*** 03/24/2015 13:27**	**26 ACU**	**<=15**	**User-Defined**
03/31/2015 13:20	14 ACU	<=15	User-Defined
04/07/2015 14:30	9 ACU	<=15	User-Defined
*** 04/14/2015 13:41**	**18 ACU**	**<=15**	**User-Defined**
04/21/2015 13:14	13 ACU	<=15	User-Defined
04/27/2015 14:24	6 ACU	<=15	User-Defined
05/05/2015 13:40	15 ACU	<=15	User-Defined
05/12/2015 13:21	9 ACU	<=15	User-Defined
05/19/2015 13:38	5 ACU	<=15	User-Defined
*** 05/26/2015 13:27**	**17 ACU**	**<=15**	**User-Defined**
06/09/2015 13:18	13 ACU	<=15	User-Defined
06/16/2015 13:05	14 ACU	<=15	User-Defined
06/22/2015 12:55	7 ACU	<=15	User-Defined

Color (apparent)		Criteria	
07/07/2015 14:12	9 ACU	<=15	User-Defined
*** 07/14/2015 13:34**	**21 ACU**	**<=15**	**User-Defined**
07/21/2015 13:45	6 ACU	<=15	User-Defined
07/27/2015 14:14	11 ACU	<=15	User-Defined
08/02/2015 13:23	12 ACU	<=15	User-Defined
08/11/2015 13:45	3 ACU	<=15	User-Defined
08/18/2015 13:43	10 ACU	<=15	User-Defined
08/25/2015 13:13	11 ACU	<=15	User-Defined
09/08/2015 14:18	10 ACU	<=15	User-Defined
*** 09/15/2015 13:17**	**22 ACU**	**<=15**	**User-Defined**
*** 09/29/2015 13:27**	**28 ACU**	**<=15**	**User-Defined**
*** 10/06/2015 13:52**	**19 ACU**	**<=15**	**User-Defined**
10/13/2015 13:21	12 ACU	<=15	User-Defined
*** 10/19/2015 13:21**	**21 ACU**	**<=15**	**User-Defined**
*** 11/10/2015 13:43**	**21 ACU**	**<=15**	**User-Defined**
11/16/2015 11:03	14 ACU	<=15	User-Defined
*** 11/23/2015 13:38**	**18 ACU**	**<=15**	**User-Defined**
12/01/2015 10:38	8 ACU	<=15	User-Defined
*** 12/07/2015 10:52**	**21 ACU**	**<=15**	**User-Defined**
*** 12/14/2015 08:40**	**30 ACU**	**<=15**	**User-Defined**
*** 12/21/2015 10:42**	**24 ACU**	**<=15**	**User-Defined**

# samples:	43	**min:**	3 ACU
# detects:	43	**max:**	37 ACU
# non-detects:	0	**avg:**	15.070 ACU (based on 43 numerical results)
# of Exceedences:	16		

Escherichia coli / E. coli (counts)		Criteria	
02/10/2015 13:46	< 1 counts/100mL	<=0, P	Microbiological Standard
02/24/2015 13:42	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		Criteria	
03/10/2015 13:27	< 1 counts/100mL	<=0, P	Microbiological Standard
03/24/2015 13:27	< 1 counts/100mL	<=0, P	Microbiological Standard
04/07/2015 14:30	< 1 counts/100mL	<=0, P	Microbiological Standard
04/21/2015 13:14	< 1 counts/100mL	<=0, P	Microbiological Standard
05/12/2015 13:21	< 1 counts/100mL	<=0, P	Microbiological Standard
06/02/2015 13:23	< 1 counts/100mL	<=0, P	Microbiological Standard
06/16/2015 13:05	< 1 counts/100mL	<=0, P	Microbiological Standard
06/30/2015 13:30	< 1 counts/100mL	<=0, P	Microbiological Standard
07/14/2015 13:34	< 1 counts/100mL	<=0, P	Microbiological Standard
07/21/2015 13:45	< 1 counts/100mL	<=0, P	Microbiological Standard
08/04/2015 13:29	< 1 counts/100mL	<=0, P	Microbiological Standard
08/18/2015 11:32	< 1 counts/100mL	<=0, P	Microbiological Standard
09/01/2015 13:24	< 1 counts/100mL	<=0, P	Microbiological Standard
09/15/2015 13:20	< 1 counts/100mL	<=0, P	Microbiological Standard
09/29/2015 13:27	< 1 counts/100mL	<=0, P	Microbiological Standard
10/13/2015 13:21	< 1 counts/100mL	<=0, P	Microbiological Standard
10/27/2015 13:40	< 1 counts/100mL	<=0, P	Microbiological Standard
11/10/2015 13:43	< 1 counts/100mL	<=0, P	Microbiological Standard
11/24/2015 13:38	< 1 counts/100mL	<=0, P	Microbiological Standard
12/08/2015 10:52	< 1 counts/100mL	<=0, P	Microbiological Standard
12/22/2015 10:42	< 1 counts/100mL	<=0, P	Microbiological Standard

# samples:	23	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	23	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Total Coliforms (counts)		**Criteria**	
02/10/2015 13:46	< 1 counts/100mL	<=10	User-Defined
02/24/2015 13:42	< 1 counts/100mL	<=10	User-Defined
03/10/2015 13:27	< 1 counts/100mL	<=10	User-Defined
03/24/2015 13:27	< 1 counts/100mL	<=10	User-Defined
04/07/2015 14:30	< 1 counts/100mL	<=10	User-Defined
04/21/2015 13:14	< 1 counts/100mL	<=10	User-Defined
05/12/2015 13:21	< 1 counts/100mL	<=10	User-Defined
06/02/2015 13:23	< 1 counts/100mL	<=10	User-Defined
06/16/2015 13:05	< 1 counts/100mL	<=10	User-Defined
06/30/2015 13:30	< 1 counts/100mL	<=10	User-Defined
07/14/2015 13:34	< 1 counts/100mL	<=10	User-Defined
07/21/2015 13:45	< 1 counts/100mL	<=10	User-Defined
08/04/2015 13:29	< 1 counts/100mL	<=10	User-Defined
08/18/2015 11:32	< 1 counts/100mL	<=10	User-Defined
09/01/2015 13:24	< 1 counts/100mL	<=10	User-Defined
09/15/2015 13:20	< 1 counts/100mL	<=10	User-Defined
09/29/2015 13:27	< 1 counts/100mL	<=10	User-Defined
10/13/2015 13:21	< 1 counts/100mL	<=10	User-Defined
10/27/2015 13:40	< 1 counts/100mL	<=10	User-Defined
11/10/2015 13:43	< 1 counts/100mL	<=10	User-Defined
11/24/2015 13:38	< 1 counts/100mL	<=10	User-Defined
12/08/2015 10:52	< 1 counts/100mL	<=10	User-Defined
12/22/2015 10:42	< 1 counts/100mL	<=10	User-Defined

# samples:	23	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	23	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Turbidity		**Criteria**	
01/06/2015 13:59	1.75 NTU	<=5	User-Defined
01/13/2015 13:03	0.95 NTU	<=5	User-Defined
01/20/2015 12:41	1.04 NTU	<=5	User-Defined
02/03/2015 13:30	1.18 NTU	<=5	User-Defined
02/16/2015 13:43	1.38 NTU	<=5	User-Defined

Turbidity		Criteria	
02/24/2015 13:52	1.15 NTU	<=5	User-Defined
03/03/2015 13:10	1.46 NTU	<=5	User-Defined
03/10/2015 13:27	1.90 NTU	<=5	User-Defined
03/16/2015 13:46	1.59 NTU	<=5	User-Defined
03/24/2015 13:27	1.22 NTU	<=5	User-Defined
03/31/2015 13:20	1.05 NTU	<=5	User-Defined
04/07/2015 14:30	0.95 NTU	<=5	User-Defined
04/14/2015 13:41	1.22 NTU	<=5	User-Defined
04/21/2015 13:14	0.97 NTU	<=5	User-Defined
04/27/2015 14:24	0.96 NTU	<=5	User-Defined
05/05/2015 13:40	0.88 NTU	<=5	User-Defined
05/12/2015 13:21	1.06 NTU	<=5	User-Defined
05/19/2015 13:38	0.83 NTU	<=5	User-Defined
05/26/2015 13:27	0.89 NTU	<=5	User-Defined
06/09/2015 13:18	0.80 NTU	<=5	User-Defined
06/16/2015 13:05	0.85 NTU	<=5	User-Defined
06/22/2015 12:55	0.66 NTU	<=5	User-Defined
07/07/2015 14:12	1.03 NTU	<=5	User-Defined
07/14/2015 13:34	0.89 NTU	<=5	User-Defined
07/21/2015 13:45	0.72 NTU	<=5	User-Defined
07/27/2015 14:14	0.82 NTU	<=5	User-Defined
08/02/2015 13:23	0.67 NTU	<=5	User-Defined
08/11/2015 13:45	0.68 NTU	<=5	User-Defined
08/18/2015 13:43	0.67 NTU	<=5	User-Defined
08/25/2015 13:13	0.76 NTU	<=5	User-Defined
09/08/2015 14:18	0.98 NTU	<=5	User-Defined
09/15/2015 13:17	1.03 NTU	<=5	User-Defined
09/29/2015 13:27	1.28 NTU	<=5	User-Defined
10/06/2015 13:52	0.89 NTU	<=5	User-Defined
10/13/2015 13:21	0.90 NTU	<=5	User-Defined
10/19/2015 13:21	0.70 NTU	<=5	User-Defined
10/27/2015 13:40	0.71 NTU	<=5	User-Defined
11/03/2015 13:00	0.75 NTU	<=5	User-Defined
11/10/2015 13:43	1.13 NTU	<=5	User-Defined
11/16/2015 11:03	1.31 NTU	<=5	User-Defined
11/23/2015 13:38	1.14 NTU	<=5	User-Defined
12/01/2015 10:38	1.03 NTU	<=5	User-Defined
12/07/2015 10:52	1.27 NTU	<=5	User-Defined
12/14/2015 08:40	1.31 NTU	<=5	User-Defined

Turbidity		Criteria	
12/21/2015 10:42	1.33 NTU	<=5	User-Defined

# samples:	45	**min:**	0.66 NTU
# detects:	45	**max:**	1.90 NTU
# non-detects:	0	**avg:**	1.039 NTU (based on 45 numerical results)
# of Exceedences:	0	**95th percentile:**	1.702 NTU

Facility: Reservoirs
Sampling Point: 06 UBCO Reservoir (North Cell) (13-2-MD, 287BB)

Chlorine (free)		Criteria	
01/07/2015 14:20	1.80 mg/L	>=0.05	WaterTrax Suggested
01/09/2015 12:20	2.20 mg/L	>=0.05	WaterTrax Suggested
01/13/2015 13:22	1.57 mg/L	>=0.05	WaterTrax Suggested
01/15/2015 13:20	1.56 mg/L	>=0.05	WaterTrax Suggested
01/19/2015 12:40	1.28 mg/L	>=0.05	WaterTrax Suggested
01/20/2015 13:12	1.38 mg/L	>=0.05	WaterTrax Suggested
01/21/2015 11:50	1.14 mg/L	>=0.05	WaterTrax Suggested
01/22/2015 12:00	1.47 mg/L	>=0.05	WaterTrax Suggested
02/02/2015 14:20	1.37 mg/L	>=0.05	WaterTrax Suggested
02/03/2015 13:47	1.36 mg/L	>=0.05	WaterTrax Suggested
02/04/2015 14:40	1.21 mg/L	>=0.05	WaterTrax Suggested
02/05/2015 13:30	1.42 mg/L	>=0.05	WaterTrax Suggested
02/06/2015 11:45	1.43 mg/L	>=0.05	WaterTrax Suggested
02/12/2015 09:50	1.42 mg/L	>=0.05	WaterTrax Suggested
02/13/2015 11:00	1.55 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
02/16/2015 14:04	1.76 mg/L	>=0.05	WaterTrax Suggested
02/17/2015 13:30	1.78 mg/L	>=0.05	WaterTrax Suggested
02/18/2015 14:10	1.78 mg/L	>=0.05	WaterTrax Suggested
02/23/2015 13:40	1.40 mg/L	>=0.05	WaterTrax Suggested
02/24/2015 14:07	1.40 mg/L	>=0.05	WaterTrax Suggested
03/10/2015 13:47	2.15 mg/L	>=0.05	WaterTrax Suggested
03/16/2015 14:02	1.30 mg/L	>=0.05	WaterTrax Suggested
03/24/2015 13:45	1.40 mg/L	>=0.05	WaterTrax Suggested
03/31/2015 13:38	1.47 mg/L	>=0.05	WaterTrax Suggested
04/07/2015 14:45	1.32 mg/L	>=0.05	WaterTrax Suggested
04/14/2015 13:58	1.36 mg/L	>=0.05	WaterTrax Suggested
04/21/2015 13:36	1.84 mg/L	>=0.05	WaterTrax Suggested
04/27/2015 14:44	1.64 mg/L	>=0.05	WaterTrax Suggested
05/12/2015 13:41	2.34 mg/L	>=0.05	WaterTrax Suggested
05/19/2015 13:55	2.47 mg/L	>=0.05	WaterTrax Suggested
05/26/2015 13:47	2.44 mg/L	>=0.05	WaterTrax Suggested
06/09/2015 13:37	2.57 mg/L	>=0.05	WaterTrax Suggested
06/16/2015 13:24	2.4 mg/L	>=0.05	WaterTrax Suggested
06/22/2015 13:13	2.40 mg/L	>=0.05	WaterTrax Suggested
06/30/2015 13:50	2.20 mg/L	>=0.05	WaterTrax Suggested
07/07/2015 14:40	2.35 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
07/14/2015 13:55	2.54 mg/L	>=0.05	WaterTrax Suggested
07/21/2015 13:22	2.37 mg/L	>=0.05	WaterTrax Suggested
07/27/2015 14:45	2.37 mg/L	>=0.05	WaterTrax Suggested
08/02/2015 13:46	2.32 mg/L	>=0.05	WaterTrax Suggested
08/03/2015 13:45	2.39 mg/L	>=0.05	WaterTrax Suggested
08/11/2015 14:02	2.46 mg/L	>=0.05	WaterTrax Suggested
08/18/2015 13:52	2.64 mg/L	>=0.05	WaterTrax Suggested
08/25/2015 13:43	2.71 mg/L	>=0.05	WaterTrax Suggested
09/08/2015 14:49	2.34 mg/L	>=0.05	WaterTrax Suggested
09/15/2015 13:37	2.13 mg/L	>=0.05	WaterTrax Suggested
09/21/2015 14:33	1.93 mg/L	>=0.05	WaterTrax Suggested
09/29/2015 13:45	1.92 mg/L	>=0.05	WaterTrax Suggested
10/01/2015 14:10	2.74 mg/L	>=0.05	WaterTrax Suggested
10/06/2015 14:14	2.03 mg/L	>=0.05	WaterTrax Suggested
10/13/2015 13:38	1.34 mg/L	>=0.05	WaterTrax Suggested
10/19/2015 13:41	1.25 mg/L	>=0.05	WaterTrax Suggested
10/27/2015 13:20	1.05 mg/L	>=0.05	WaterTrax Suggested
11/03/2015 13:30	1.05 mg/L	>=0.05	WaterTrax Suggested
11/10/2015 14:03	0.74 mg/L	>=0.05	WaterTrax Suggested
11/16/2015 11:23	1.06 mg/L	>=0.05	WaterTrax Suggested
11/23/2015 13:38	1.24 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
12/01/2015 11:06	1.26 mg/L	>=0.05	WaterTrax Suggested
12/07/2015 11:11	1.23 mg/L	>=0.05	WaterTrax Suggested
12/14/2015 08:22	1.22 mg/L	>=0.05	WaterTrax Suggested
12/21/2015 11:11	1.12 mg/L	>=0.05	WaterTrax Suggested
12/29/2015 12:40	1.11 mg/L	>=0.05	WaterTrax Suggested

# samples:	62	**min:**	0.74 mg/L
# detects:	62	**max:**	2.74 mg/L
# non-detects:	0	**avg:**	1.750 mg/L (based on 62 numerical results)
# of Exceedences:	0		

Color (apparent)		Criteria	
01/06/2015 14:22	13 ACU	<=15	User-Defined
01/13/2015 13:22	12 ACU	<=15	User-Defined
01/20/2015 13:12	15 ACU	<=15	User-Defined
02/03/2015 13:47	4 ACU	<=15	User-Defined
*** 02/16/2015 14:04**	**17 ACU**	**<=15**	**User-Defined**
*** 02/24/2015 14:07**	**19 ACU**	**<=15**	**User-Defined**
*** 03/10/2015 13:47**	**24 ACU**	**<=15**	**User-Defined**
*** 03/16/2015 14:02**	**19 ACU**	**<=15**	**User-Defined**
03/24/2015 13:45	8 ACU	<=15	User-Defined
*** 03/31/2015 13:38**	**16 ACU**	**<=15**	**User-Defined**
04/07/2015 14:45	11 ACU	<=15	User-Defined
*** 04/14/2015 13:58**	**18 ACU**	**<=15**	**User-Defined**
*** 04/21/2015 13:36**	**19 ACU**	**<=15**	**User-Defined**
*** 04/27/2015 14:44**	**18 ACU**	**<=15**	**User-Defined**
05/12/2015 13:41	10 ACU	<=15	User-Defined
*** 05/19/2015 13:55**	**19 ACU**	**<=15**	**User-Defined**

Color (apparent)		**Criteria**	
05/26/2015 13:47	13 ACU	<=15	User-Defined
06/09/2015 13:37	11 ACU	<=15	User-Defined
06/16/2015 13:24	15 ACU	<=15	User-Defined
06/22/2015 13:13	5 ACU	<=15	User-Defined
07/07/2015 14:40	8 ACU	<=15	User-Defined
*** 07/14/2015 13:55**	**20 ACU**	**<=15**	**User-Defined**
07/21/2015 13:22	13 ACU	<=15	User-Defined
07/27/2015 14:45	13 ACU	<=15	User-Defined
08/02/2015 13:46	15 ACU	<=15	User-Defined
08/03/2015 13:45	15 ACU	<=15	User-Defined
*** 08/11/2015 14:02**	**16 ACU**	**<=15**	**User-Defined**
08/18/2015 13:52	12 ACU	<=15	User-Defined
*** 08/25/2015 13:43**	**22 ACU**	**<=15**	**User-Defined**
*** 09/08/2015 14:49**	**24 ACU**	**<=15**	**User-Defined**
*** 09/15/2015 13:37**	**19 ACU**	**<=15**	**User-Defined**
09/29/2015 13:45	14 ACU	<=15	User-Defined
10/06/2015 14:14	9 ACU	<=15	User-Defined
10/13/2015 13:38	14 ACU	<=15	User-Defined
10/19/2015 13:41	15 ACU	<=15	User-Defined
11/10/2015 14:03	14 ACU	<=15	User-Defined
11/16/2015 11:23	7 ACU	<=15	User-Defined
*** 11/23/2015 13:38**	**19 ACU**	**<=15**	**User-Defined**
*** 12/01/2015 11:06**	**25 ACU**	**<=15**	**User-Defined**
*** 12/07/2015 11:11**	**21 ACU**	**<=15**	**User-Defined**
*** 12/14/2015 08:22**	**29 ACU**	**<=15**	**User-Defined**
*** 12/21/2015 11:11**	**25 ACU**	**<=15**	**User-Defined**

# samples:	42	**min:**	4 ACU
# detects:	42	**max:**	29 ACU
# non-detects:	0	**avg:**	15.595 ACU (based on 42 numerical results)
# of Exceedences:	19		

Escherichia coli / E. coli (counts)		**Criteria**	
01/13/2015 13:22	< 1 counts/100mL	<=0, P	Microbiological Standard
01/27/2015 14:10	ND counts/100mL	<=0, P	Microbiological Standard
02/03/2015 13:47	< 1 counts/100mL	<=0, P	Microbiological Standard
02/16/2015 14:04	< 1 counts/100mL	<=0, P	Microbiological Standard
03/04/2015 15:50	< 1 counts/100mL	<=0, P	Microbiological Standard
03/16/2015 14:02	< 1 counts/100mL	<=0, P	Microbiological Standard
03/31/2015 13:38	< 1 counts/100mL	<=0, P	Microbiological Standard
04/14/2015 13:58	< 1 counts/100mL	<=0, P	Microbiological Standard
04/27/2015 14:22	< 1 counts/100mL	<=0, P	Microbiological Standard
05/05/2015 14:04	< 1 counts/100mL	<=0, P	Microbiological Standard
05/19/2015 13:55	< 1 counts/100mL	<=0, P	Microbiological Standard
06/01/2015 13:40	< 1 counts/100mL	<=0, P	Microbiological Standard
06/16/2015 13:24	< 1 counts/100mL	<=0, P	Microbiological Standard
06/30/2015 13:50	< 1 counts/100mL	<=0, P	Microbiological Standard
07/14/2015 13:55	< 1 counts/100mL	<=0, P	Microbiological Standard
07/21/2015 13:22	< 1 counts/100mL	<=0, P	Microbiological Standard
08/04/2015 13:45	< 1 counts/100mL	<=0, P	Microbiological Standard
08/18/2015 13:52	< 1 counts/100mL	<=0, P	Microbiological Standard
09/01/2015 14:14	< 1 counts/100mL	<=0, P	Microbiological Standard
09/15/2015 13:52	< 1 counts/100mL	<=0, P	Microbiological Standard
09/28/2015 13:30	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		**Criteria**	
09/29/2015 13:45	< 1 counts/100mL	<=0, P	Microbiological Standard
10/13/2015 13:38	< 1 counts/100mL	<=0, P	Microbiological Standard
10/27/2015 13:20	< 1 counts/100mL	<=0, P	Microbiological Standard
11/10/2015 14:03	< 1 counts/100mL	<=0, P	Microbiological Standard
11/24/2015 14:00	< 1 counts/100mL	<=0, P	Microbiological Standard
12/08/2015 11:11	< 1 counts/100mL	<=0, P	Microbiological Standard
12/22/2015 11:11	< 1 counts/100mL	<=0, P	Microbiological Standard

# samples:	28	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	28	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

pH		**Criteria**	
09/28/2015 13:30	7.84		

# samples:	1	**min:**	7.84
# detects:	1	**max:**	7.84
# non-detects:	0	**avg:**	7.840 (based on 1 numerical results)
# of Exceedences:	0		

Total Coliforms (counts)		**Criteria**	
01/13/2015 13:22	< 1 counts/100mL	<=10	User-Defined
01/27/2015 14:10	ND counts/100mL	<=10	User-Defined
02/03/2015 13:47	< 1 counts/100mL	<=10	User-Defined
02/16/2015 14:04	< 1 counts/100mL	<=10	User-Defined
03/04/2015 15:50	< 1 counts/100mL	<=10	User-Defined
03/16/2015 14:02	< 1 counts/100mL	<=10	User-Defined
03/31/2015 13:38	< 1 counts/100mL	<=10	User-Defined
04/14/2015 13:58	< 1 counts/100mL	<=10	User-Defined
04/27/2015 14:22	< 1 counts/100mL	<=10	User-Defined
05/05/2015 14:04	< 1 counts/100mL	<=10	User-Defined
05/19/2015 13:55	< 1 counts/100mL	<=10	User-Defined
06/01/2015 13:40	< 1 counts/100mL	<=10	User-Defined

Total Coliforms (counts)		Criteria	
06/16/2015 13:24	< 1 counts/100mL	<=10	User-Defined
06/30/2015 13:50	< 1 counts/100mL	<=10	User-Defined
07/14/2015 13:55	< 1 counts/100mL	<=10	User-Defined
07/21/2015 13:22	< 1 counts/100mL	<=10	User-Defined
08/04/2015 13:45	< 1 counts/100mL	<=10	User-Defined
08/18/2015 13:52	< 1 counts/100mL	<=10	User-Defined
09/01/2015 14:14	< 1 counts/100mL	<=10	User-Defined
09/15/2015 13:52	< 1 counts/100mL	<=10	User-Defined
09/28/2015 13:30	< 1 counts/100mL	<=10	User-Defined
09/29/2015 13:45	< 1 counts/100mL	<=10	User-Defined
10/13/2015 13:38	< 1 counts/100mL	<=10	User-Defined
10/27/2015 13:20	< 1 counts/100mL	<=10	User-Defined
11/10/2015 14:03	< 1 counts/100mL	<=10	User-Defined
11/24/2015 14:00	< 1 counts/100mL	<=10	User-Defined
12/08/2015 11:11	< 1 counts/100mL	<=10	User-Defined
12/22/2015 11:11	< 1 counts/100mL	<=10	User-Defined

# samples:	28	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	28	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Turbidity		Criteria	
01/06/2015 14:22	1.61 NTU	<=5	User-Defined
01/13/2015 13:22	1.08 NTU	<=5	User-Defined
01/20/2015 13:12	1.02 NTU	<=5	User-Defined
02/16/2015 14:04	0.93 NTU	<=5	User-Defined
02/24/2015 14:07	1.33 NTU	<=5	User-Defined
03/10/2015 13:47	1.96 NTU	<=5	User-Defined
03/16/2015 14:02	1.24 NTU	<=5	User-Defined
03/24/2015 13:45	1.18 NTU	<=5	User-Defined
03/31/2015 13:38	1.31 NTU	<=5	User-Defined
04/07/2015 14:45	1.24 NTU	<=5	User-Defined
04/14/2015 13:58	1.27 NTU	<=5	User-Defined
04/21/2015 13:36	0.95 NTU	<=5	User-Defined
04/27/2015 14:44	1.00 NTU	<=5	User-Defined
05/12/2015 13:41	0.90 NTU	<=5	User-Defined
05/19/2015 13:55	1.13 NTU	<=5	User-Defined
05/26/2015 13:47	0.97 NTU	<=5	User-Defined
06/09/2015 13:37	0.70 NTU	<=5	User-Defined

Turbidity		Criteria	
06/16/2015 13:24	0.81 NTU	<=5	User-Defined
06/22/2015 13:13	0.87 NTU	<=5	User-Defined
07/07/2015 14:40	0.78 NTU	<=5	User-Defined
07/14/2015 13:55	0.92 NTU	<=5	User-Defined
07/21/2015 13:22	0.89 NTU	<=5	User-Defined
07/27/2015 14:45	0.79 NTU	<=5	User-Defined
08/02/2015 13:46	0.74 NTU	<=5	User-Defined
08/03/2015 13:45	0.77 NTU	<=5	User-Defined
08/11/2015 14:02	0.71 NTU	<=5	User-Defined
08/18/2015 13:52	0.65 NTU	<=5	User-Defined
08/25/2015 13:43	0.88 NTU	<=5	User-Defined
09/08/2015 14:49	0.97 NTU	<=5	User-Defined
09/15/2015 13:37	1.05 NTU	<=5	User-Defined
09/28/2015 13:30	0.9 NTU	<=5	User-Defined
09/29/2015 13:45	1.01 NTU	<=5	User-Defined
10/06/2015 14:14	0.98 NTU	<=5	User-Defined
10/13/2015 13:38	0.60 NTU	<=5	User-Defined
10/19/2015 13:41	0.72 NTU	<=5	User-Defined
10/27/2015 13:20	0.83 NTU	<=5	User-Defined
11/03/2015 13:30	0.99 NTU	<=5	User-Defined
11/10/2015 14:03	1.38 NTU	<=5	User-Defined
11/16/2015 11:23	1.37 NTU	<=5	User-Defined
11/23/2015 13:38	1.16 NTU	<=5	User-Defined
12/01/2015 11:06	1.33 NTU	<=5	User-Defined
12/07/2015 11:11	1.35 NTU	<=5	User-Defined
12/14/2015 08:22	1.67 NTU	<=5	User-Defined
12/21/2015 11:11	1.50 NTU	<=5	User-Defined

# samples:	44	**min:**	0.60 NTU
# detects:	44	**max:**	1.96 NTU
# non-detects:	0	**avg:**	1.055 NTU (based on 44 numerical results)
# of Exceedences:	0	**95th percentile:**	1.655 NTU

Facility: Reservoirs
Sampling Point: 07 UBCO Reservoir (Center Cell) (13-3-MD, 287BC)

Chlorine (free)		Criteria	
01/06/2015 14:22	1.61 mg/L	>=0.05	WaterTrax Suggested

WaterTrax

Chlorine (free)		**Criteria**	
01/07/2015 14:20	1.66 mg/L	>=0.05	WaterTrax Suggested
01/09/2015 12:20	2.27 mg/L	>=0.05	WaterTrax Suggested
01/13/2015 13:22	1.34 mg/L	>=0.05	WaterTrax Suggested
01/15/2015 13:20	1.60 mg/L	>=0.05	WaterTrax Suggested
01/19/2015 12:40	1.48 mg/L	>=0.05	WaterTrax Suggested
01/20/2015 13:12	1.49 mg/L	>=0.05	WaterTrax Suggested
01/21/2015 11:50	1.16 mg/L	>=0.05	WaterTrax Suggested
01/22/2015 12:00	1.72 mg/L	>=0.05	WaterTrax Suggested
02/02/2015 14:20	1.39 mg/L	>=0.05	WaterTrax Suggested
02/03/2015 13:47	1.31 mg/L	>=0.05	WaterTrax Suggested
02/04/2015 14:40	1.43 mg/L	>=0.05	WaterTrax Suggested
02/05/2015 13:30	1.48 mg/L	>=0.05	WaterTrax Suggested
02/06/2015 11:45	1.50 mg/L	>=0.05	WaterTrax Suggested
02/12/2015 09:50	1.47 mg/L	>=0.05	WaterTrax Suggested
02/13/2015 11:00	1.65 mg/L	>=0.05	WaterTrax Suggested
02/16/2015 14:04	1.76 mg/L	>=0.05	WaterTrax Suggested
02/17/2015 13:30	1.89 mg/L	>=0.05	WaterTrax Suggested
02/18/2015 14:10	1.89 mg/L	>=0.05	WaterTrax Suggested
02/23/2015 13:40	1.53 mg/L	>=0.05	WaterTrax Suggested
02/24/2015 14:07	1.53 mg/L	>=0.05	WaterTrax Suggested
03/03/2015 13:29	1.25 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
03/10/2015 13:47	2.25 mg/L	>=0.05	WaterTrax Suggested
03/16/2015 14:02	1.43 mg/L	>=0.05	WaterTrax Suggested
03/24/2015 13:45	1.40 mg/L	>=0.05	WaterTrax Suggested
03/31/2015 13:38	1.48 mg/L	>=0.05	WaterTrax Suggested
04/07/2015 14:45	1.33 mg/L	>=0.05	WaterTrax Suggested
04/14/2015 13:58	1.39 mg/L	>=0.05	WaterTrax Suggested
04/21/2015 13:36	1.73 mg/L	>=0.05	WaterTrax Suggested
04/27/2015 14:44	1.69 mg/L	>=0.05	WaterTrax Suggested
05/05/2015 14:04	2.13 mg/L	>=0.05	WaterTrax Suggested
05/12/2015 13:41	2.37 mg/L	>=0.05	WaterTrax Suggested
05/19/2015 13:55	2.61 mg/L	>=0.05	WaterTrax Suggested
05/26/2015 13:47	2.41 mg/L	>=0.05	WaterTrax Suggested
06/09/2015 13:37	2.28 mg/L	>=0.05	WaterTrax Suggested
06/16/2015 13:24	2.24 mg/L	>=0.05	WaterTrax Suggested
06/22/2015 13:13	2.41 mg/L	>=0.05	WaterTrax Suggested
06/30/2015 13:50	2.35 mg/L	>=0.05	WaterTrax Suggested
07/07/2015 14:40	2.03 mg/L	>=0.05	WaterTrax Suggested
07/14/2015 13:55	2.74 mg/L	>=0.05	WaterTrax Suggested
07/21/2015 13:22	2.47 mg/L	>=0.05	WaterTrax Suggested
07/27/2015 14:45	2.49 mg/L	>=0.05	WaterTrax Suggested
08/02/2015 13:40	2.23 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
08/03/2015 13:45	2.62 mg/L	>=0.05	WaterTrax Suggested
08/11/2015 14:02	2.50 mg/L	>=0.05	WaterTrax Suggested
08/18/2015 13:52	2.96 mg/L	>=0.05	WaterTrax Suggested
08/25/2015 13:43	2.81 mg/L	>=0.05	WaterTrax Suggested
09/08/2015 14:49	2.17 mg/L	>=0.05	WaterTrax Suggested
09/15/2015 13:37	1.81 mg/L	>=0.05	WaterTrax Suggested
09/21/2015 14:33	2.18 mg/L	>=0.05	WaterTrax Suggested
09/29/2015 13:45	1.84 mg/L	>=0.05	WaterTrax Suggested
10/01/2015 14:07	2.82 mg/L	>=0.05	WaterTrax Suggested
10/06/2015 14:14	2.13 mg/L	>=0.05	WaterTrax Suggested
10/13/2015 13:38	1.57 mg/L	>=0.05	WaterTrax Suggested
10/19/2015 13:41	1.09 mg/L	>=0.05	WaterTrax Suggested
10/27/2015 13:20	1.12 mg/L	>=0.05	WaterTrax Suggested
11/03/2015 13:30	1.04 mg/L	>=0.05	WaterTrax Suggested
11/10/2015 14:03	0.97 mg/L	>=0.05	WaterTrax Suggested
11/16/2015 11:23	0.98 mg/L	>=0.05	WaterTrax Suggested
11/23/2015 14:00	1.18 mg/L	>=0.05	WaterTrax Suggested
12/01/2015 11:06	1.11 mg/L	>=0.05	WaterTrax Suggested
12/07/2015 11:11	1.31 mg/L	>=0.05	WaterTrax Suggested
12/14/2015 08:22	1.24 mg/L	>=0.05	WaterTrax Suggested
12/21/2015 11:11	1.14 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
12/29/2015 12:40	1.25 mg/L	>=0.05	WaterTrax Suggested

# samples:	65	**min:**	0.97 mg/L
# detects:	65	**max:**	2.96 mg/L
# non-detects:	0	**avg:**	1.780 mg/L (based on 65 numerical results)
# of Exceedences:	0		

Color (apparent)		**Criteria**	
01/06/2015 14:22	10 ACU	<=15	User-Defined
01/13/2015 13:22	11 ACU	<=15	User-Defined
01/20/2015 13:12	11 ACU	<=15	User-Defined
02/03/2015 13:47	14 ACU	<=15	User-Defined
*** 02/16/2015 14:04**	**20 ACU**	**<=15**	**User-Defined**
*** 02/24/2015 14:07**	**20 ACU**	**<=15**	**User-Defined**
*** 03/03/2015 13:29**	**16 ACU**	**<=15**	**User-Defined**
*** 03/16/2015 14:02**	**21 ACU**	**<=15**	**User-Defined**
03/24/2015 13:45	3 ACU	<=15	User-Defined
03/31/2015 13:38	7 ACU	<=15	User-Defined
*** 04/07/2015 14:45**	**17 ACU**	**<=15**	**User-Defined**
*** 04/14/2015 13:58**	**18 ACU**	**<=15**	**User-Defined**
*** 04/21/2015 13:36**	**21 ACU**	**<=15**	**User-Defined**
*** 04/27/2015 14:44**	**19 ACU**	**<=15**	**User-Defined**
05/05/2015 14:04	1 ACU	<=15	User-Defined
05/12/2015 13:41	10 ACU	<=15	User-Defined
05/19/2015 13:55	15 ACU	<=15	User-Defined
05/26/2015 13:47	8 ACU	<=15	User-Defined
06/09/2015 13:37	9 ACU	<=15	User-Defined
06/16/2015 13:24	14 ACU	<=15	User-Defined
06/22/2015 13:13	9 ACU	<=15	User-Defined
07/07/2015 14:40	10 ACU	<=15	User-Defined
07/14/2015 13:55	11 ACU	<=15	User-Defined

Color (apparent)		Criteria	
*** 07/21/2015 13:22**	**18 ACU**	**<=15**	**User-Defined**
*** 07/27/2015 14:45**	**16 ACU**	**<=15**	**User-Defined**
08/02/2015 13:40	14 ACU	<=15	User-Defined
08/03/2015 13:45	8 ACU	<=15	User-Defined
*** 08/11/2015 14:02**	**17 ACU**	**<=15**	**User-Defined**
08/18/2015 13:52	15 ACU	<=15	User-Defined
08/25/2015 13:43	15 ACU	<=15	User-Defined
09/08/2015 14:49	12 ACU	<=15	User-Defined
*** 09/15/2015 13:37**	**24 ACU**	**<=15**	**User-Defined**
*** 09/29/2015 13:45**	**17 ACU**	**<=15**	**User-Defined**
10/06/2015 14:14	12 ACU	<=15	User-Defined
10/13/2015 13:38	13 ACU	<=15	User-Defined
*** 10/19/2015 13:41**	**20 ACU**	**<=15**	**User-Defined**
11/10/2015 14:03	12 ACU	<=15	User-Defined
*** 11/16/2015 11:23**	**19 ACU**	**<=15**	**User-Defined**
*** 11/23/2015 14:00**	**20 ACU**	**<=15**	**User-Defined**
*** 12/01/2015 11:06**	**19 ACU**	**<=15**	**User-Defined**
*** 12/07/2015 11:11**	**28 ACU**	**<=15**	**User-Defined**
*** 12/14/2015 08:22**	**34 ACU**	**<=15**	**User-Defined**
*** 12/21/2015 11:11**	**25 ACU**	**<=15**	**User-Defined**

# samples:	43	**min:**	1 ACU
# detects:	43	**max:**	34 ACU
# non-detects:	0	**avg:**	15.186 ACU (based on 43 numerical results)
# of Exceedences:	20		

Escherichia coli / E. coli (counts)		Criteria	
01/06/2015 14:34	< 1 counts/100mL	<=0, P	Microbiological Standard

WaterTrax

Escherichia coli / E. coli (counts)		**Criteria**	
01/20/2015 11:12	< 1 counts/100mL	<=0, P	Microbiological Standard
02/10/2015 13:29	< 1 counts/100mL	<=0, P	Microbiological Standard
02/24/2015 14:04	< 1 counts/100mL	<=0, P	Microbiological Standard
03/09/2015 16:00	< 1 counts/100mL	<=0, P	Microbiological Standard
03/24/2015 13:45	< 1 counts/100mL	<=0, P	Microbiological Standard
04/07/2015 14:50	< 1 counts/100mL	<=0, P	Microbiological Standard
04/21/2015 13:36	< 1 counts/100mL	<=0, P	Microbiological Standard
05/12/2015 13:41	< 1 counts/100mL	<=0, P	Microbiological Standard
05/26/2015 13:47	< 1 counts/100mL	<=0, P	Microbiological Standard
06/09/2015 13:37	< 1 counts/100mL	<=0, P	Microbiological Standard
06/22/2015 13:13	< 1 counts/100mL	<=0, P	Microbiological Standard
07/07/2015 14:40	< 1 counts/100mL	<=0, P	Microbiological Standard
07/27/2015 14:45	< 1 counts/100mL	<=0, P	Microbiological Standard
08/11/2015 14:02	< 1 counts/100mL	<=0, P	Microbiological Standard
08/25/2015 13:43	< 1 counts/100mL	<=0, P	Microbiological Standard
09/08/2015 14:49	< 1 counts/100mL	<=0, P	Microbiological Standard
09/21/2015 02:33	< 1 counts/100mL	<=0, P	Microbiological Standard
10/06/2015 14:17	< 1 counts/100mL	<=0, P	Microbiological Standard
10/19/2015 13:41	< 1 counts/100mL	<=0, P	Microbiological Standard
11/03/2015 13:35	< 1 counts/100mL	<=0, P	Microbiological Standard
11/17/2015 11:23	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		Criteria	
12/01/2015 11:06	< 1 counts/100mL	<=0, P	Microbiological Standard
12/15/2015 08:22	< 1 counts/100mL	<=0, P	Microbiological Standard
12/29/2015 12:40	< 1 counts/100mL	<=0, P	Microbiological Standard

# samples:	25	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	25	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Total Coliforms (counts)		Criteria	
01/06/2015 14:34	< 1 counts/100mL	<=10	User-Defined
01/20/2015 11:12	< 1 counts/100mL	<=10	User-Defined
02/10/2015 13:29	< 1 counts/100mL	<=10	User-Defined
02/24/2015 14:04	< 1 counts/100mL	<=10	User-Defined
03/09/2015 16:00	< 1 counts/100mL	<=10	User-Defined
03/24/2015 13:45	< 1 counts/100mL	<=10	User-Defined
04/07/2015 14:50	< 1 counts/100mL	<=10	User-Defined
04/21/2015 13:36	< 1 counts/100mL	<=10	User-Defined
05/12/2015 13:41	< 1 counts/100mL	<=10	User-Defined
05/26/2015 13:47	< 1 counts/100mL	<=10	User-Defined
06/09/2015 13:37	< 1 counts/100mL	<=10	User-Defined
06/22/2015 13:13	< 1 counts/100mL	<=10	User-Defined
07/07/2015 14:40	< 1 counts/100mL	<=10	User-Defined
07/27/2015 14:45	< 1 counts/100mL	<=10	User-Defined
08/11/2015 14:02	< 1 counts/100mL	<=10	User-Defined
08/25/2015 13:43	< 1 counts/100mL	<=10	User-Defined
09/08/2015 14:49	< 1 counts/100mL	<=10	User-Defined
09/21/2015 02:33	< 1 counts/100mL	<=10	User-Defined
10/06/2015 14:17	< 1 counts/100mL	<=10	User-Defined
10/19/2015 13:41	< 1 counts/100mL	<=10	User-Defined
11/03/2015 13:35	< 1 counts/100mL	<=10	User-Defined
11/17/2015 11:23	< 1 counts/100mL	<=10	User-Defined
12/01/2015 11:06	< 1 counts/100mL	<=10	User-Defined
12/15/2015 08:22	< 1 counts/100mL	<=10	User-Defined
12/29/2015 12:40	< 1 counts/100mL	<=10	User-Defined

# samples:	25	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL

# non-detects:	25	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Turbidity		Criteria	
01/06/2015 14:22	1.03 NTU	<=5	User-Defined
01/13/2015 13:22	1.13 NTU	<=5	User-Defined
01/20/2015 13:12	1.00 NTU	<=5	User-Defined
02/03/2015 13:47	1.07 NTU	<=5	User-Defined
02/16/2015 14:04	0.93 NTU	<=5	User-Defined
02/24/2015 14:07	1.19 NTU	<=5	User-Defined
03/03/2015 13:29	1.48 NTU	<=5	User-Defined
03/16/2015 14:02	1.47 NTU	<=5	User-Defined
03/24/2015 13:45	1.16 NTU	<=5	User-Defined
03/31/2015 13:38	1.58 NTU	<=5	User-Defined
04/07/2015 14:45	1.17 NTU	<=5	User-Defined
04/14/2015 13:58	1.58 NTU	<=5	User-Defined
04/21/2015 13:36	0.89 NTU	<=5	User-Defined
04/27/2015 14:44	1.03 NTU	<=5	User-Defined
05/05/2015 14:04	0.89 NTU	<=5	User-Defined
05/12/2015 13:41	1.23 NTU	<=5	User-Defined
05/19/2015 13:55	1.00 NTU	<=5	User-Defined
05/26/2015 13:47	0.84 NTU	<=5	User-Defined
06/09/2015 13:37	0.89 NTU	<=5	User-Defined
06/16/2015 13:24	0.86 NTU	<=5	User-Defined
06/22/2015 13:13	0.91 NTU	<=5	User-Defined
07/07/2015 14:40	0.92 NTU	<=5	User-Defined
07/14/2015 13:55	0.97 NTU	<=5	User-Defined
07/21/2015 13:22	1.05 NTU	<=5	User-Defined
07/27/2015 14:45	0.88 NTU	<=5	User-Defined
08/02/2015 13:40	0.84 NTU	<=5	User-Defined
08/03/2015 13:45	0.84 NTU	<=5	User-Defined
08/11/2015 14:02	0.75 NTU	<=5	User-Defined
08/18/2015 13:52	0.89 NTU	<=5	User-Defined
08/25/2015 13:43	1.13 NTU	<=5	User-Defined
09/08/2015 14:49	0.94 NTU	<=5	User-Defined
09/15/2015 13:37	1.12 NTU	<=5	User-Defined
09/29/2015 13:45	1.19 NTU	<=5	User-Defined
10/06/2015 14:14	1.03 NTU	<=5	User-Defined
10/13/2015 13:38	1.07 NTU	<=5	User-Defined
10/19/2015 13:41	0.90 NTU	<=5	User-Defined

Turbidity		**Criteria**	
10/27/2015 13:20	0.88 NTU	<=5	User-Defined
11/03/2015 13:30	0.96 NTU	<=5	User-Defined
11/10/2015 14:03	1.15 NTU	<=5	User-Defined
11/16/2015 11:23	1.00 NTU	<=5	User-Defined
11/23/2015 14:00	1.04 NTU	<=5	User-Defined
12/01/2015 11:06	1.03 NTU	<=5	User-Defined
12/07/2015 11:11	1.55 NTU	<=5	User-Defined
12/14/2015 08:22	1.42 NTU	<=5	User-Defined
12/21/2015 11:11	1.69 NTU	<=5	User-Defined

# samples:	45	**min:**	0.75 NTU
# detects:	45	**max:**	1.69 NTU
# non-detects:	0	**avg:**	1.079 NTU (based on 45 numerical results)
# of Exceedences:	0	**95th percentile:**	1.580 NTU

Facility: Test Stations
Sampling Point: Aberdeen T/S (1-15-EP, 31F01)

Chlorine (free)		**Criteria**	
03/03/2015 13:53	0.75 mg/L	>=0.05	WaterTrax Suggested
03/10/2015 14:07	0.83 mg/L	>=0.05	WaterTrax Suggested
03/24/2015 14:09	0.53 mg/L	>=0.05	WaterTrax Suggested
04/14/2015 14:19	0.82 mg/L	>=0.05	WaterTrax Suggested
04/21/2015 14:00	0.97 mg/L	>=0.05	WaterTrax Suggested
04/27/2015 15:02	1.87 mg/L	>=0.05	WaterTrax Suggested
05/05/2015 14:24	1.02 mg/L	>=0.05	WaterTrax Suggested
05/12/2015 14:06	1.26 mg/L	>=0.05	WaterTrax Suggested
05/19/2015 14:16	1.27 mg/L	>=0.05	WaterTrax Suggested
05/26/2015 14:10	1.52 mg/L	>=0.05	WaterTrax Suggested
06/09/2015 14:00	1.16 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
06/16/2015 13:45	1.11 mg/L	>=0.05	WaterTrax Suggested
06/30/2015 14:17	1.01 mg/L	>=0.05	WaterTrax Suggested
07/14/2015 14:15	0.97 mg/L	>=0.05	WaterTrax Suggested
08/02/2015 14:09	1.40 mg/L	>=0.05	WaterTrax Suggested
08/03/2015 14:07	0.75 mg/L	>=0.05	WaterTrax Suggested
08/11/2015 14:25	1.11 mg/L	>=0.05	WaterTrax Suggested
08/18/2015 14:18	1.06 mg/L	>=0.05	WaterTrax Suggested
09/08/2015 13:13	0.65 mg/L	>=0.05	WaterTrax Suggested
09/15/2015 13:59	1.06 mg/L	>=0.05	WaterTrax Suggested
09/29/2015 14:17	0.54 mg/L	>=0.05	WaterTrax Suggested
10/06/2015 14:36	0.75 mg/L	>=0.05	WaterTrax Suggested
10/13/2015 13:58	0.62 mg/L	>=0.05	WaterTrax Suggested
10/19/2015 14:02	0.55 mg/L	>=0.05	WaterTrax Suggested
10/27/2015 14:00	0.20 mg/L	>=0.05	WaterTrax Suggested
11/03/2015 14:05	0.06 mg/L	>=0.05	WaterTrax Suggested
11/10/2015 14:44	0.06 mg/L	>=0.05	WaterTrax Suggested
11/16/2015 11:47	0.13 mg/L	>=0.05	WaterTrax Suggested
11/23/2015 14:21	0.08 mg/L	>=0.05	WaterTrax Suggested
12/01/2015 11:32	0.05 mg/L	>=0.05	WaterTrax Suggested
12/07/2015 11:31	0.07 mg/L	>=0.05	WaterTrax Suggested
12/14/2015 08:04	0.05 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
12/22/2015 11:38	0.16 mg/L	>=0.05	WaterTrax Suggested
12/29/2015 13:04	0.20 mg/L	>=0.05	WaterTrax Suggested

# samples:	34	**min:**	0.05 mg/L
# detects:	34	**max:**	1.87 mg/L
# non-detects:	0	**avg:**	0.725 mg/L (based on 34 numerical results)
# of Exceedences:	0		

Color (apparent)		**Criteria**	
*** 03/03/2015 13:53**	**17 ACU**	**<=15**	**User-Defined**
*** 03/10/2015 14:07**	**41 ACU**	**<=15**	**User-Defined**
*** 03/24/2015 14:09**	**17 ACU**	**<=15**	**User-Defined**
*** 04/14/2015 14:19**	**18 ACU**	**<=15**	**User-Defined**
04/21/2015 14:00	10 ACU	<=15	User-Defined
04/27/2015 15:02	13 ACU	<=15	User-Defined
05/05/2015 14:24	4 ACU	<=15	User-Defined
05/12/2015 14:06	10 ACU	<=15	User-Defined
05/19/2015 14:16	9 ACU	<=15	User-Defined
05/26/2015 14:10	4 ACU	<=15	User-Defined
06/09/2015 14:00	8 ACU	<=15	User-Defined
06/16/2015 13:45	6 ACU	<=15	User-Defined
06/22/2015 13:34	4 ACU	<=15	User-Defined
07/07/2015 15:03	2 ACU	<=15	User-Defined
07/14/2015 14:15	11 ACU	<=15	User-Defined
*** 07/21/2015 13:07**	**26 ACU**	**<=15**	**User-Defined**
08/02/2015 14:09	13 ACU	<=15	User-Defined
08/03/2015 14:07	12 ACU	<=15	User-Defined
08/11/2015 14:25	15 ACU	<=15	User-Defined
08/18/2015 14:18	6 ACU	<=15	User-Defined
08/25/2015 14:09	14 ACU	<=15	User-Defined
09/08/2015 13:13	5 ACU	<=15	User-Defined
09/15/2015 13:59	9 ACU	<=15	User-Defined
09/29/2015 14:17	9 ACU	<=15	User-Defined
10/06/2015 14:36	15 ACU	<=15	User-Defined

Color (apparent)		Criteria	
*** 10/13/2015 13:58**	**18 ACU**	**<=15**	**User-Defined**
*** 10/19/2015 14:02**	**17 ACU**	**<=15**	**User-Defined**
11/10/2015 14:44	14 ACU	<=15	User-Defined
11/16/2015 11:47	13 ACU	<=15	User-Defined
*** 11/23/2015 14:21**	**21 ACU**	**<=15**	**User-Defined**
12/01/2015 11:32	15 ACU	<=15	User-Defined
*** 12/07/2015 11:31**	**19 ACU**	**<=15**	**User-Defined**
12/14/2015 08:04	11 ACU	<=15	User-Defined
*** 12/22/2015 11:38**	**19 ACU**	**<=15**	**User-Defined**

# samples:	34	**min:**	2 ACU
# detects:	34	**max:**	41 ACU
# non-detects:	0	**avg:**	13.088 ACU (based on 34 numerical results)
# of Exceedences:	10		

Escherichia coli / E. coli (counts)		Criteria	
02/16/2015 14:31	< 1 counts/100mL	<=0, P	Microbiological Standard
03/03/2015 13:53	< 1 counts/100mL	<=0, P	Microbiological Standard
03/16/2015 14:26	< 1 counts/100mL	<=0, P	Microbiological Standard
04/14/2015 14:19	< 1 counts/100mL	<=0, P	Microbiological Standard
04/27/2015 15:02	< 1 counts/100mL	<=0, P	Microbiological Standard
05/05/2015 14:25	< 1 counts/100mL	<=0, P	Microbiological Standard
05/19/2015 14:16	< 1 counts/100mL	<=0, P	Microbiological Standard
06/01/2015 14:09	< 1 counts/100mL	<=0, P	Microbiological Standard
06/16/2015 13:43	< 1 counts/100mL	<=0, P	Microbiological Standard
06/30/2015 14:17	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		Criteria	
07/14/2015 14:15	< 1 counts/100mL	<=0, P	Microbiological Standard
07/21/2015 13:07	< 1 counts/100mL	<=0, P	Microbiological Standard
08/04/2015 14:07	< 1 counts/100mL	<=0, P	Microbiological Standard
08/18/2015 14:18	< 1 counts/100mL	<=0, P	Microbiological Standard
09/01/2015 14:35	< 1 counts/100mL	<=0, P	Microbiological Standard
09/15/2015 13:59	< 1 counts/100mL	<=0, P	Microbiological Standard
09/29/2015 14:17	< 1 counts/100mL	<=0, P	Microbiological Standard
10/13/2015 13:58	< 1 counts/100mL	<=0, P	Microbiological Standard
10/27/2015 14:00	< 1 counts/100mL	<=0, P	Microbiological Standard
11/10/2015 14:44	< 1 counts/100mL	<=0, P	Microbiological Standard
11/24/2015 14:21	< 1 counts/100mL	<=0, P	Microbiological Standard
12/08/2015 11:31	< 1 counts/100mL	<=0, P	Microbiological Standard
12/22/2015 11:38	< 1 counts/100mL	<=0, P	Microbiological Standard

# samples:	23	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	23	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

pH		Criteria
06/22/2015 13:34	NT	
07/07/2015 15:03	NT	
07/21/2015 13:07	NT	
08/25/2015 14:09	NT	

# samples:	0	**min:**	n/a
# detects:	0	**max:**	n/a
# non-detects:	0	**avg:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Total Coliforms (counts)		**Criteria**	
02/16/2015 14:31	< 1 counts/100mL	<=10	User-Defined
03/03/2015 13:53	< 1 counts/100mL	<=10	User-Defined
03/16/2015 14:26	< 1 counts/100mL	<=10	User-Defined
04/14/2015 14:19	< 1 counts/100mL	<=10	User-Defined
04/27/2015 15:02	< 1 counts/100mL	<=10	User-Defined
05/05/2015 14:25	< 1 counts/100mL	<=10	User-Defined
05/19/2015 14:16	< 1 counts/100mL	<=10	User-Defined
06/01/2015 14:09	< 1 counts/100mL	<=10	User-Defined
06/16/2015 13:43	< 1 counts/100mL	<=10	User-Defined
06/30/2015 14:17	< 1 counts/100mL	<=10	User-Defined
07/14/2015 14:15	< 1 counts/100mL	<=10	User-Defined
07/21/2015 13:07	< 1 counts/100mL	<=10	User-Defined
08/04/2015 14:07	< 1 counts/100mL	<=10	User-Defined
08/18/2015 14:18	< 1 counts/100mL	<=10	User-Defined
09/01/2015 14:35	< 1 counts/100mL	<=10	User-Defined
09/15/2015 13:59	< 1 counts/100mL	<=10	User-Defined
09/29/2015 14:17	< 1 counts/100mL	<=10	User-Defined
10/13/2015 13:58	< 1 counts/100mL	<=10	User-Defined
10/27/2015 14:00	< 1 counts/100mL	<=10	User-Defined
11/10/2015 14:44	< 1 counts/100mL	<=10	User-Defined
11/24/2015 14:21	< 1 counts/100mL	<=10	User-Defined
12/08/2015 11:31	< 1 counts/100mL	<=10	User-Defined
12/22/2015 11:38	< 1 counts/100mL	<=10	User-Defined

# samples:	23	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	23	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Turbidity		**Criteria**	
03/03/2015 13:53	0.80 NTU	<=5	User-Defined
03/10/2015 14:07	2.37 NTU	<=5	User-Defined
03/24/2015 14:09	0.78 NTU	<=5	User-Defined
04/14/2015 14:19	0.76 NTU	<=5	User-Defined
04/21/2015 14:00	0.84 NTU	<=5	User-Defined
04/27/2015 15:02	1.02 NTU	<=5	User-Defined
05/05/2015 14:24	0.67 NTU	<=5	User-Defined
05/12/2015 14:06	0.55 NTU	<=5	User-Defined
05/19/2015 14:16	0.47 NTU	<=5	User-Defined
05/26/2015 14:10	0.84 NTU	<=5	User-Defined

Turbidity		**Criteria**	
06/09/2015 14:00	0.46 NTU	<=5	User-Defined
06/16/2015 13:45	0.47 NTU	<=5	User-Defined
06/22/2015 13:34	0.94 NTU	<=5	User-Defined
07/07/2015 15:03	0.82 NTU	<=5	User-Defined
07/14/2015 14:15	0.47 NTU	<=5	User-Defined
07/21/2015 13:07	1.12 NTU	<=5	User-Defined
08/02/2015 14:09	0.74 NTU	<=5	User-Defined
08/03/2015 14:07	0.59 NTU	<=5	User-Defined
08/11/2015 14:25	0.65 NTU	<=5	User-Defined
08/18/2015 14:18	0.55 NTU	<=5	User-Defined
08/25/2015 14:09	1.49 NTU	<=5	User-Defined
09/08/2015 13:13	0.53 NTU	<=5	User-Defined
09/15/2015 13:59	0.76 NTU	<=5	User-Defined
09/29/2015 14:17	0.89 NTU	<=5	User-Defined
10/06/2015 14:36	0.84 NTU	<=5	User-Defined
10/13/2015 13:58	0.60 NTU	<=5	User-Defined
10/19/2015 14:02	0.50 NTU	<=5	User-Defined
11/03/2015 14:05	0.40 NTU	<=5	User-Defined
11/10/2015 14:44	0.52 NTU	<=5	User-Defined
11/16/2015 11:47	0.69 NTU	<=5	User-Defined
11/23/2015 14:21	0.65 NTU	<=5	User-Defined
12/01/2015 11:32	0.89 NTU	<=5	User-Defined
12/07/2015 11:31	0.70 NTU	<=5	User-Defined
12/14/2015 08:04	0.66 NTU	<=5	User-Defined
12/22/2015 11:38	0.88 NTU	<=5	User-Defined

# samples:	35	**min:**	0.40 NTU
# detects:	35	**max:**	2.37 NTU
# non-detects:	0	**avg:**	0.769 NTU (based on 35 numerical results)
# of Exceedences:	0	**95th percentile:**	1.666 NTU

Facility: Test Stations
Sampling Point: GEID office (1-8-MD, 3367)

Chlorine (free)		**Criteria**	
01/06/2015 11:40	1.39 mg/L	>=0.05	WaterTrax Suggested
01/14/2015 09:15	1.63 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
01/21/2015 08:15	1.38 mg/L	>=0.05	WaterTrax Suggested
02/03/2015	1.72 mg/L	>=0.05	WaterTrax Suggested
02/16/2015 13:35	1.28 mg/L	>=0.05	WaterTrax Suggested
02/25/2015 08:45	1.57 mg/L	>=0.05	WaterTrax Suggested
03/03/2015 08:45	1.62 mg/L	>=0.05	WaterTrax Suggested
03/11/2015 09:25	1.34 mg/L	>=0.05	WaterTrax Suggested
03/17/2015 09:45	1.53 mg/L	>=0.05	WaterTrax Suggested
03/25/2015 09:45	1.39 mg/L	>=0.05	WaterTrax Suggested
04/01/2015 08:30	1.49 mg/L	>=0.05	WaterTrax Suggested
04/15/2015 09:55	1.98 mg/L	>=0.05	WaterTrax Suggested
04/22/2015 09:05	2.19 mg/L	>=0.05	WaterTrax Suggested
04/28/2015 09:00	1.87 mg/L	>=0.05	WaterTrax Suggested
05/06/2015	2.22 mg/L	>=0.05	WaterTrax Suggested
05/13/2015	2.14 mg/L	>=0.05	WaterTrax Suggested
05/20/2015 09:00	2.24 mg/L	>=0.05	WaterTrax Suggested
05/27/2015 09:00	2.19 mg/L	>=0.05	WaterTrax Suggested
06/03/2015 08:45	2.29 mg/L	>=0.05	WaterTrax Suggested
06/10/2015 09:55	2.53 mg/L	>=0.05	WaterTrax Suggested
06/17/2015 08:15	2.25 mg/L	>=0.05	WaterTrax Suggested
06/23/2015 12:35	2.63 mg/L	>=0.05	WaterTrax Suggested
07/08/2015 08:50	2.33 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
07/15/2015 14:30	2.76 mg/L	>=0.05	WaterTrax Suggested
07/22/2015 09:45	2.63 mg/L	>=0.05	WaterTrax Suggested
07/28/2015 09:05	2.63 mg/L	>=0.05	WaterTrax Suggested
08/04/2015 08:30	2.15 mg/L	>=0.05	WaterTrax Suggested
08/12/2015 08:55	2.48 mg/L	>=0.05	WaterTrax Suggested
08/19/2015 08:50	2.76 mg/L	>=0.05	WaterTrax Suggested
08/26/2015 09:30	2.82 mg/L	>=0.05	WaterTrax Suggested
09/09/2015 10:15	2.89 mg/L	>=0.05	WaterTrax Suggested
09/16/2015 12:00	1.66 mg/L	>=0.05	WaterTrax Suggested
09/30/2015	1.63 mg/L	>=0.05	WaterTrax Suggested
10/13/2015 11:00	1.85 mg/L	>=0.05	WaterTrax Suggested
10/20/2015 14:02	1.37 mg/L	>=0.05	WaterTrax Suggested
11/11/2015 09:00	1.33 mg/L	>=0.05	WaterTrax Suggested
11/16/2015 13:50	1.42 mg/L	>=0.05	WaterTrax Suggested
11/23/2015 13:45	1.66 mg/L	>=0.05	WaterTrax Suggested
12/01/2015 13:44	1.89 mg/L	>=0.05	WaterTrax Suggested
12/07/2015 13:55	1.44 mg/L	>=0.05	WaterTrax Suggested
12/08/2015 13:15	1.60 mg/L	>=0.05	WaterTrax Suggested
12/21/2015 12:55	1.67 mg/L	>=0.05	WaterTrax Suggested

# samples:	42	**min:**	1.28 mg/L
# detects:	42	**max:**	2.89 mg/L
# non-detects:	0	**avg:**	1.949 mg/L (based on 42 numerical results)
# of Exceedences:	0		

Color (apparent)		Criteria	
*** 01/06/2015 11:40**	**17 ACU**	**<=15**	**User-Defined**
01/14/2015 09:15	14 ACU	<=15	User-Defined
01/21/2015 08:15	11 ACU	<=15	User-Defined
02/03/2015	11 ACU	<=15	User-Defined
02/16/2015 13:35	10 ACU	<=15	User-Defined
*** 03/03/2015 08:45**	**18 ACU**	**<=15**	**User-Defined**
*** 03/11/2015 09:25**	**16 ACU**	**<=15**	**User-Defined**
*** 03/17/2015 09:45**	**17 ACU**	**<=15**	**User-Defined**
*** 03/25/2015 09:45**	**17 ACU**	**<=15**	**User-Defined**
04/01/2015 08:30	13 ACU	<=15	User-Defined
04/07/2015 15:00	13 ACU	<=15	User-Defined
*** 04/15/2015 09:55**	**23 ACU**	**<=15**	**User-Defined**
*** 04/22/2015 09:05**	**34 ACU**	**<=15**	**User-Defined**
04/28/2015 09:00	13 ACU	<=15	User-Defined
*** 05/06/2015**	**18 ACU**	**<=15**	**User-Defined**
05/13/2015	12 ACU	<=15	User-Defined
05/20/2015 09:00	11 ACU	<=15	User-Defined
*** 05/27/2015 09:00**	**20 ACU**	**<=15**	**User-Defined**
*** 06/03/2015 08:45**	**24 ACU**	**<=15**	**User-Defined**
06/10/2015 09:55	10 ACU	<=15	User-Defined
06/17/2015 08:15	2 ACU	<=15	User-Defined
06/23/2015 12:35	13 ACU	<=15	User-Defined
07/08/2015 08:50	11 ACU	<=15	User-Defined
*** 07/15/2015 14:30**	**17 ACU**	**<=15**	**User-Defined**
*** 07/22/2015 09:45**	**19 ACU**	**<=15**	**User-Defined**
*** 07/28/2015 09:05**	**22 ACU**	**<=15**	**User-Defined**
08/04/2015 08:30	8 ACU	<=15	User-Defined
*** 08/12/2015 08:55**	**21 ACU**	**<=15**	**User-Defined**
08/19/2015 08:50	6 ACU	<=15	User-Defined

Color (apparent)		Criteria	
*** 08/26/2015 09:30**	**22 ACU**	**<=15**	**User-Defined**
09/09/2015 10:15	14 ACU	<=15	User-Defined
*** 09/16/2015 12:00**	**21 ACU**	**<=15**	**User-Defined**
*** 09/30/2015**	**19 ACU**	**<=15**	**User-Defined**
10/13/2015 11:00	10 ACU	<=15	User-Defined
10/20/2015 14:02	13 ACU	<=15	User-Defined
*** 11/11/2015 09:00**	**18 ACU**	**<=15**	**User-Defined**
*** 11/16/2015 13:50**	**22 ACU**	**<=15**	**User-Defined**
11/23/2015 13:45	15 ACU	<=15	User-Defined
*** 12/01/2015 13:44**	**29 ACU**	**<=15**	**User-Defined**
*** 12/07/2015 13:55**	**27 ACU**	**<=15**	**User-Defined**
*** 12/08/2015 13:15**	**26 ACU**	**<=15**	**User-Defined**
*** 12/21/2015 12:55**	**28 ACU**	**<=15**	**User-Defined**

# samples:	42	**min:**	2 ACU
# detects:	42	**max:**	34 ACU
# non-detects:	0	**avg:**	16.786 ACU (based on 42 numerical results)
# of Exceedences:	23		

Escherichia coli / E. coli (counts)		Criteria	
01/13/2015 07:30	< 1 counts/100mL	<=0, P	Microbiological Standard
01/27/2015 08:15	ND counts/100mL	<=0, P	Microbiological Standard
02/03/2015 07:50	< 1 counts/100mL	<=0, P	Microbiological Standard
02/16/2015 07:41	< 1 counts/100mL	<=0, P	Microbiological Standard
03/03/2015 07:20	< 1 counts/100mL	<=0, P	Microbiological Standard
03/16/2015 07:30	< 1 counts/100mL	<=0, P	Microbiological Standard
03/31/2015 07:40	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		**Criteria**	
04/14/2015 07:30	< 1 counts/100mL	<=0, P	Microbiological Standard
04/27/2015 07:58	< 1 counts/100mL	<=0, P	Microbiological Standard
05/05/2015 07:41	< 1 counts/100mL	<=0, P	Microbiological Standard
05/19/2015 08:15	< 1 counts/100mL	<=0, P	Microbiological Standard
06/02/2015 07:34	< 1 counts/100mL	<=0, P	Microbiological Standard
06/16/2015 08:45	< 1 counts/100mL	<=0, P	Microbiological Standard
06/30/2015 07:19	< 1 counts/100mL	<=0, P	Microbiological Standard
07/14/2015 07:45	< 1 counts/100mL	<=0, P	Microbiological Standard
07/21/2015 07:40	< 1 counts/100mL	<=0, P	Microbiological Standard
08/04/2015 07:31	< 1 counts/100mL	<=0, P	Microbiological Standard
08/18/2015 07:33	< 1 counts/100mL	<=0, P	Microbiological Standard
09/01/2015 07:46	< 1 counts/100mL	<=0, P	Microbiological Standard
09/15/2015 07:50	< 1 counts/100mL	<=0, P	Microbiological Standard
09/29/2015 07:50	< 1 counts/100mL	<=0, P	Microbiological Standard
10/13/2015 07:45	< 1 counts/100mL	<=0, P	Microbiological Standard
10/27/2015 08:00	< 1 counts/100mL	<=0, P	Microbiological Standard
11/10/2015 07:30	< 1 counts/100mL	<=0, P	Microbiological Standard
12/07/2015 08:10	< 1 counts/100mL	<=0, P	Microbiological Standard
12/21/2015 07:30	< 1 counts/100mL	<=0, P	Microbiological Standard

# samples:	26	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	26	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Total Coliforms (counts)		**Criteria**	
01/13/2015 07:30	< 1 counts/100mL	<=10	User-Defined
01/27/2015 08:15	ND counts/100mL	<=10	User-Defined
02/03/2015 07:50	< 1 counts/100mL	<=10	User-Defined
02/16/2015 07:41	< 1 counts/100mL	<=10	User-Defined
03/03/2015 07:20	< 1 counts/100mL	<=10	User-Defined
03/16/2015 07:30	< 1 counts/100mL	<=10	User-Defined
03/31/2015 07:40	< 1 counts/100mL	<=10	User-Defined
04/14/2015 07:30	< 1 counts/100mL	<=10	User-Defined
04/27/2015 07:58	< 1 counts/100mL	<=10	User-Defined
05/05/2015 07:41	< 1 counts/100mL	<=10	User-Defined
05/19/2015 08:15	< 1 counts/100mL	<=10	User-Defined
06/02/2015 07:34	< 1 counts/100mL	<=10	User-Defined
06/16/2015 08:45	< 1 counts/100mL	<=10	User-Defined
06/30/2015 07:19	< 1 counts/100mL	<=10	User-Defined
07/14/2015 07:45	< 1 counts/100mL	<=10	User-Defined
07/21/2015 07:40	1 counts/100mL	<=10	User-Defined
08/04/2015 07:31	< 1 counts/100mL	<=10	User-Defined
08/18/2015 07:33	< 1 counts/100mL	<=10	User-Defined
09/01/2015 07:46	< 1 counts/100mL	<=10	User-Defined
09/15/2015 07:50	< 1 counts/100mL	<=10	User-Defined
09/29/2015 07:50	< 1 counts/100mL	<=10	User-Defined
10/13/2015 07:45	< 1 counts/100mL	<=10	User-Defined
10/27/2015 08:00	< 1 counts/100mL	<=10	User-Defined
11/10/2015 07:30	< 1 counts/100mL	<=10	User-Defined
12/07/2015 08:10	< 1 counts/100mL	<=10	User-Defined
12/21/2015 07:30	< 1 counts/100mL	<=10	User-Defined

# samples:	26	**min:**	< 1 counts/100mL
# detects:	1	**max:**	1 counts/100mL
# non-detects:	25	**Geometric Mean:**	1.000 counts/100mL (based on 1 numerical results)
# of Exceedences:	0		

Turbidity		**Criteria**	
01/06/2015 11:40	0.96 NTU	<=5	User-Defined
01/14/2015 09:15	1.05 NTU	<=5	User-Defined
01/21/2015 08:15	1.09 NTU	<=5	User-Defined
02/03/2015	1.03 NTU	<=5	User-Defined
02/16/2015 13:35	1.27 NTU	<=5	User-Defined
03/03/2015 08:45	1.03 NTU	<=5	User-Defined
03/11/2015 09:25	1.21 NTU	<=5	User-Defined

Turbidity		**Criteria**	
03/17/2015 09:45	1.40 NTU	<=5	User-Defined
03/25/2015 09:45	1.36 NTU	<=5	User-Defined
04/01/2015 08:30	1.10 NTU	<=5	User-Defined
04/07/2015 15:00	1.18 NTU	<=5	User-Defined
04/15/2015 09:55	1.75 NTU	<=5	User-Defined
04/22/2015 09:05	1.47 NTU	<=5	User-Defined
04/28/2015 09:00	1.02 NTU	<=5	User-Defined
05/06/2015	1.27 NTU	<=5	User-Defined
05/13/2015	1.21 NTU	<=5	User-Defined
05/20/2015 09:00	1.59 NTU	<=5	User-Defined
05/27/2015 09:00	1.11 NTU	<=5	User-Defined
06/10/2015 09:55	0.92 NTU	<=5	User-Defined
06/17/2015 08:15	0.80 NTU	<=5	User-Defined
06/23/2015 12:35	1.20 NTU	<=5	User-Defined
07/08/2015 08:50	0.92 NTU	<=5	User-Defined
07/15/2015 14:30	1.19 NTU	<=5	User-Defined
07/22/2015 09:45	0.89 NTU	<=5	User-Defined
07/28/2015 09:05	1.03 NTU	<=5	User-Defined
08/04/2015 08:30	0.94 NTU	<=5	User-Defined
08/12/2015 08:55	0.74 NTU	<=5	User-Defined
08/19/2015 08:50	0.84 NTU	<=5	User-Defined
08/26/2015 09:30	1.17 NTU	<=5	User-Defined
09/09/2015 10:15	1.37 NTU	<=5	User-Defined
09/16/2015 12:00	1.33 NTU	<=5	User-Defined
09/30/2015	1.26 NTU	<=5	User-Defined
10/13/2015 11:00	0.85 NTU	<=5	User-Defined
10/20/2015 14:02	0.79 NTU	<=5	User-Defined
10/27/2015 08:00	1.11 NTU	<=5	User-Defined
11/03/2015 08:00	1.15 NTU	<=5	User-Defined
11/11/2015 09:00	1.39 NTU	<=5	User-Defined
11/16/2015 13:50	1.21 NTU	<=5	User-Defined
11/23/2015 13:45	1.20 NTU	<=5	User-Defined
12/01/2015 13:44	1.62 NTU	<=5	User-Defined
12/07/2015 13:55	1.37 NTU	<=5	User-Defined
12/08/2015 13:15	1.55 NTU	<=5	User-Defined
12/21/2015 12:55	1.80 NTU	<=5	User-Defined

# samples:	43	**min:**	0.74 NTU
# detects:	43	**max:**	1.80 NTU
# non-detects:	0	**avg:**	1.180 NTU (based on 43 numerical results)

# of Exceedences:	0	**95th percentile:**	1.724 NTU

Facility: Test Stations
Sampling Point: Monford Test station (1-1-MD, 3342)

Chlorine (free)		**Criteria**	
01/06/2015 11:12	2.04 mg/L	>=0.05	WaterTrax Suggested
01/13/2015 10:43	1.77 mg/L	>=0.05	WaterTrax Suggested
01/20/2015 10:32	1.84 mg/L	>=0.05	WaterTrax Suggested
02/03/2015 11:22	1.83 mg/L	>=0.05	WaterTrax Suggested
02/16/2015 11:12	1.72 mg/L	>=0.05	WaterTrax Suggested
02/24/2015 12:38	1.80 mg/L	>=0.05	WaterTrax Suggested
03/03/2015 10:50	1.73 mg/L	>=0.05	WaterTrax Suggested
03/10/2015 11:34	1.84 mg/L	>=0.05	WaterTrax Suggested
03/16/2015 11:16	1.79 mg/L	>=0.05	WaterTrax Suggested
03/24/2015 10:41	2.12 mg/L	>=0.05	WaterTrax Suggested
03/31/2015 10:48	1.85 mg/L	>=0.05	WaterTrax Suggested
04/07/2015 12:20	2.10 mg/L	>=0.05	WaterTrax Suggested
04/14/2015 11:13	2.30 mg/L	>=0.05	WaterTrax Suggested
04/21/2015 10:53	2.38 mg/L	>=0.05	WaterTrax Suggested
04/27/2015 11:08	2.21 mg/L	>=0.05	WaterTrax Suggested
05/05/2015 11:26	2.57 mg/L	>=0.05	WaterTrax Suggested
05/12/2015 11:00	2.68 mg/L	>=0.05	WaterTrax Suggested
05/19/2015 11:24	3.11 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
05/26/2015 10:50	2.94 mg/L	>=0.05	WaterTrax Suggested
06/09/2015 10:31	2.94 mg/L	>=0.05	WaterTrax Suggested
06/16/2015 11:02	2.83 mg/L	>=0.05	WaterTrax Suggested
06/22/2015 10:39	1.99 mg/L	>=0.05	WaterTrax Suggested
06/30/2015 10:25	2.90 mg/L	>=0.05	WaterTrax Suggested
07/07/2015 11:07	2.46 mg/L	>=0.05	WaterTrax Suggested
07/14/2015 10:43	3.11 mg/L	>=0.05	WaterTrax Suggested
07/21/2015 10:41	2.80 mg/L	>=0.05	WaterTrax Suggested
07/27/2015 11:35	2.77 mg/L	>=0.05	WaterTrax Suggested
08/02/2015 10:39	2.74 mg/L	>=0.05	WaterTrax Suggested
08/03/2015 11:01	2.68 mg/L	>=0.05	WaterTrax Suggested
08/11/2015 11:16	2.08 mg/L	>=0.05	WaterTrax Suggested
08/18/2015 10:51	2.20 mg/L	>=0.05	WaterTrax Suggested
08/25/2015 10:37	2.94 mg/L	>=0.05	WaterTrax Suggested
09/15/2015 11:00	2.53 mg/L	>=0.05	WaterTrax Suggested
09/21/2015 11:30	2.70 mg/L	>=0.05	WaterTrax Suggested
09/29/2015 11:01	2.68 mg/L	>=0.05	WaterTrax Suggested
10/06/2015 11:32	2.82 mg/L	>=0.05	WaterTrax Suggested
10/13/2015 11:10	2.07 mg/L	>=0.05	WaterTrax Suggested

# samples:	37	**min:**	1.72 mg/L
# detects:	37	**max:**	3.11 mg/L
# non-detects:	0	**avg:**	2.375 mg/L (based on 37 numerical results)
# of Exceedences:	0		

WaterTrax

Color (apparent)		Criteria	
*** 01/06/2015 11:12**	**20 ACU**	**<=15**	**User-Defined**
*** 01/13/2015 10:43**	**17 ACU**	**<=15**	**User-Defined**
01/20/2015 10:32	13 ACU	<=15	User-Defined
02/03/2015 11:22	9 ACU	<=15	User-Defined
*** 02/16/2015 11:12**	**19 ACU**	**<=15**	**User-Defined**
*** 02/24/2015 12:38**	**16 ACU**	**<=15**	**User-Defined**
*** 03/03/2015 10:50**	**20 ACU**	**<=15**	**User-Defined**
*** 03/10/2015 11:34**	**23 ACU**	**<=15**	**User-Defined**
*** 03/16/2015 11:16**	**16 ACU**	**<=15**	**User-Defined**
*** 03/24/2015 10:41**	**16 ACU**	**<=15**	**User-Defined**
03/31/2015 10:48	12 ACU	<=15	User-Defined
*** 04/07/2015 12:20**	**23 ACU**	**<=15**	**User-Defined**
*** 04/14/2015 11:13**	**44 ACU**	**<=15**	**User-Defined**
04/21/2015 10:53	12 ACU	<=15	User-Defined
*** 04/27/2015 11:08**	**20 ACU**	**<=15**	**User-Defined**
*** 05/05/2015 11:26**	**16 ACU**	**<=15**	**User-Defined**
05/12/2015 11:00	14 ACU	<=15	User-Defined
05/19/2015 11:24	1 ACU	<=15	User-Defined
05/26/2015 10:50	10 ACU	<=15	User-Defined
06/09/2015 10:31	11 ACU	<=15	User-Defined
06/16/2015 11:02	14 ACU	<=15	User-Defined
*** 06/22/2015 10:39**	**21 ACU**	**<=15**	**User-Defined**
*** 07/07/2015 11:07**	**19 ACU**	**<=15**	**User-Defined**
*** 07/14/2015 10:43**	**20 ACU**	**<=15**	**User-Defined**
07/21/2015 10:41	12 ACU	<=15	User-Defined
07/27/2015 11:35	9 ACU	<=15	User-Defined
08/02/2015 10:39	3 ACU	<=15	User-Defined

Color (apparent)		Criteria	
08/03/2015 11:01	9 ACU	<=15	User-Defined
*** 08/11/2015 11:16**	**18 ACU**	**<=15**	**User-Defined**
08/18/2015 10:51	12 ACU	<=15	User-Defined
*** 08/25/2015 10:37**	**22 ACU**	**<=15**	**User-Defined**
09/15/2015 11:00	14 ACU	<=15	User-Defined
09/29/2015 11:01	15 ACU	<=15	User-Defined
10/06/2015 11:32	15 ACU	<=15	User-Defined

# samples:	34	**min:**	1 ACU
# detects:	34	**max:**	44 ACU
# non-detects:	0	**avg:**	15.735 ACU (based on 34 numerical results)
# of Exceedences:	17		

Escherichia coli / E. coli (counts)		Criteria	
01/13/2015 10:43	< 1 counts/100mL	<=0, P	Microbiological Standard
01/27/2015 11:25	ND counts/100mL	<=0, P	Microbiological Standard
02/03/2015 11:18	< 1 counts/100mL	<=0, P	Microbiological Standard
02/16/2015 11:12	< 1 counts/100mL	<=0, P	Microbiological Standard
03/03/2015 10:50	< 1 counts/100mL	<=0, P	Microbiological Standard
03/16/2015 11:16	< 1 counts/100mL	<=0, P	Microbiological Standard
03/31/2015 10:48	< 1 counts/100mL	<=0, P	Microbiological Standard
04/14/2015 11:13	< 1 counts/100mL	<=0, P	Microbiological Standard
04/27/2015 11:08	< 1 counts/100mL	<=0, P	Microbiological Standard
05/05/2015 11:26	< 1 counts/100mL	<=0, P	Microbiological Standard
05/19/2015 11:24	< 1 counts/100mL	<=0, P	Microbiological Standard
06/02/2015 10:41	< 1 counts/100mL	<=0, P	Microbiological Standard
06/16/2015 11:02	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		**Criteria**	
06/30/2015 10:27	< 1 counts/100mL	<=0, P	Microbiological Standard
07/14/2015 10:43	< 1 counts/100mL	<=0, P	Microbiological Standard
07/21/2015 10:41	< 1 counts/100mL	<=0, P	Microbiological Standard
08/04/2015 10:55	< 1 counts/100mL	<=0, P	Microbiological Standard
08/18/2015 10:51	< 1 counts/100mL	<=0, P	Microbiological Standard
09/01/2015 11:24	< 1 counts/100mL	<=0, P	Microbiological Standard
09/15/2015 10:55	< 1 counts/100mL	<=0, P	Microbiological Standard
09/29/2015 11:01	< 1 counts/100mL	<=0, P	Microbiological Standard
10/13/2015 11:10	< 1 counts/100mL	<=0, P	Microbiological Standard

# samples:	22	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	22	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Total Coliforms (counts)		**Criteria**	
01/13/2015 10:43	< 1 counts/100mL	<=10	User-Defined
01/27/2015 11:25	ND counts/100mL	<=10	User-Defined
02/03/2015 11:18	< 1 counts/100mL	<=10	User-Defined
02/16/2015 11:12	< 1 counts/100mL	<=10	User-Defined
03/03/2015 10:50	< 1 counts/100mL	<=10	User-Defined
03/16/2015 11:16	< 1 counts/100mL	<=10	User-Defined
03/31/2015 10:48	< 1 counts/100mL	<=10	User-Defined
04/14/2015 11:13	< 1 counts/100mL	<=10	User-Defined
04/27/2015 11:08	< 1 counts/100mL	<=10	User-Defined
05/05/2015 11:26	< 1 counts/100mL	<=10	User-Defined
05/19/2015 11:24	< 1 counts/100mL	<=10	User-Defined
06/02/2015 10:41	< 1 counts/100mL	<=10	User-Defined
06/16/2015 11:02	< 1 counts/100mL	<=10	User-Defined
06/30/2015 10:27	< 1 counts/100mL	<=10	User-Defined
07/14/2015 10:43	< 1 counts/100mL	<=10	User-Defined
07/21/2015 10:41	< 1 counts/100mL	<=10	User-Defined

Total Coliforms (counts)		Criteria	
08/04/2015 10:55	< 1 counts/100mL	<=10	User-Defined
08/18/2015 10:51	< 1 counts/100mL	<=10	User-Defined
09/01/2015 11:24	< 1 counts/100mL	<=10	User-Defined
09/15/2015 10:55	< 1 counts/100mL	<=10	User-Defined
09/29/2015 11:01	< 1 counts/100mL	<=10	User-Defined
10/13/2015 11:10	< 1 counts/100mL	<=10	User-Defined

# samples:	22	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	22	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Turbidity		Criteria	
01/06/2015 11:12	1.25 NTU	<=5	User-Defined
01/13/2015 10:43	1.05 NTU	<=5	User-Defined
01/20/2015 10:32	0.87 NTU	<=5	User-Defined
02/03/2015 11:22	0.95 NTU	<=5	User-Defined
02/16/2015 11:12	0.95 NTU	<=5	User-Defined
02/24/2015 12:38	1.29 NTU	<=5	User-Defined
03/03/2015 10:50	1.29 NTU	<=5	User-Defined
03/10/2015 11:34	1.55 NTU	<=5	User-Defined
03/16/2015 11:16	1.11 NTU	<=5	User-Defined
03/24/2015 10:41	1.29 NTU	<=5	User-Defined
03/31/2015 10:48	1.10 NTU	<=5	User-Defined
04/07/2015 12:20	1.78 NTU	<=5	User-Defined
04/21/2015 10:53	0.91 NTU	<=5	User-Defined
04/27/2015 11:08	0.94 NTU	<=5	User-Defined
05/05/2015 11:26	0.84 NTU	<=5	User-Defined
05/12/2015 11:00	0.80 NTU	<=5	User-Defined
05/19/2015 11:24	1.00 NTU	<=5	User-Defined
05/26/2015 10:50	0.73 NTU	<=5	User-Defined
06/09/2015 10:31	1.12 NTU	<=5	User-Defined
06/16/2015 11:02	0.85 NTU	<=5	User-Defined
06/22/2015 10:39	0.78 NTU	<=5	User-Defined
07/07/2015 11:07	1.19 NTU	<=5	User-Defined
07/14/2015 10:43	1.00 NTU	<=5	User-Defined
07/21/2015 10:41	0.68 NTU	<=5	User-Defined
07/27/2015 11:35	0.85 NTU	<=5	User-Defined
08/02/2015 10:39	0.66 NTU	<=5	User-Defined
08/03/2015 11:01	0.78 NTU	<=5	User-Defined

Turbidity		**Criteria**	
08/11/2015 11:16	0.73 NTU	<=5	User-Defined
08/18/2015 10:51	1.06 NTU	<=5	User-Defined
08/25/2015 10:37	1.00 NTU	<=5	User-Defined
09/15/2015 11:00	1.01 NTU	<=5	User-Defined
09/29/2015 11:01	1.23 NTU	<=5	User-Defined
10/06/2015 11:32	1.33 NTU	<=5	User-Defined

# samples:	33	**min:**	0.66 NTU
# detects:	33	**max:**	1.78 NTU
# non-detects:	0	**avg:**	1.029 NTU (based on 33 numerical results)
# of Exceedences:	0	**95th percentile:**	1.619 NTU

Facility: Test Stations
Sampling Point: Tutts Pumphouse (1-7-MD, 3366)

Chlorine (free)		**Criteria**	
01/05/2015 11:30	2.72 mg/L	>=0.05	WaterTrax Suggested
01/07/2015 11:40	2.87 mg/L	>=0.05	WaterTrax Suggested
01/09/2015 09:55	2.77 mg/L	>=0.05	WaterTrax Suggested
01/13/2015 10:16	2.76 mg/L	>=0.05	WaterTrax Suggested
01/15/2015 10:45	2.59 mg/L	>=0.05	WaterTrax Suggested
01/19/2015 09:45	2.80 mg/L	>=0.05	WaterTrax Suggested
01/20/2015 09:51	2.74 mg/L	>=0.05	WaterTrax Suggested
01/21/2015 10:20	2.67 mg/L	>=0.05	WaterTrax Suggested
01/22/2015 09:45	2.60 mg/L	>=0.05	WaterTrax Suggested
02/02/2015 08:35	2.58 mg/L	>=0.05	WaterTrax Suggested
02/03/2015 10:47	2.71 mg/L	>=0.05	WaterTrax Suggested
02/04/2015 08:15	2.72 mg/L	>=0.05	WaterTrax Suggested
02/05/2015 09:30	2.74 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
02/06/2015 09:35	2.51 mg/L	>=0.05	WaterTrax Suggested
02/11/2015 10:20	2.70 mg/L	>=0.05	WaterTrax Suggested
02/12/2015 13:25	2.45 mg/L	>=0.05	WaterTrax Suggested
02/13/2015 10:20	2.40 mg/L	>=0.05	WaterTrax Suggested
02/16/2015 10:47	2.66 mg/L	>=0.05	WaterTrax Suggested
02/17/2015 14:30	2.38 mg/L	>=0.05	WaterTrax Suggested
02/18/2015 08:45	2.53 mg/L	>=0.05	WaterTrax Suggested
02/23/2015 10:30	2.74 mg/L	>=0.05	WaterTrax Suggested
02/24/2015 09:55	2.33 mg/L	>=0.05	WaterTrax Suggested
03/03/2015 08:41	2.43 mg/L	>=0.05	WaterTrax Suggested
03/10/2015 10:59	1.99 mg/L	>=0.05	WaterTrax Suggested
03/16/2015 10:55	2.67 mg/L	>=0.05	WaterTrax Suggested
03/24/2015 09:58	2.82 mg/L	>=0.05	WaterTrax Suggested
03/31/2015 10:27	2.51 mg/L	>=0.05	WaterTrax Suggested
04/07/2015 11:25	2.24 mg/L	>=0.05	WaterTrax Suggested
04/14/2015 09:01	2.74 mg/L	>=0.05	WaterTrax Suggested
04/21/2015 10:25	2.99 mg/L	>=0.05	WaterTrax Suggested
04/27/2015 10:43	2.90 mg/L	>=0.05	WaterTrax Suggested
05/05/2015 10:49	3.60 mg/L	>=0.05	WaterTrax Suggested
05/12/2015 10:29	3.39 mg/L	>=0.05	WaterTrax Suggested
05/19/2015 11:03	3.46 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
05/26/2015 10:24	3.48 mg/L	>=0.05	WaterTrax Suggested
06/09/2015 09:55	3.26 mg/L	>=0.05	WaterTrax Suggested
06/16/2015 10:30	3.34 mg/L	>=0.05	WaterTrax Suggested
06/22/2015 10:02	3.46 mg/L	>=0.05	WaterTrax Suggested
06/30/2015 09:46	3.45 mg/L	>=0.05	WaterTrax Suggested
07/07/2015 10:40	3.77 mg/L	>=0.05	WaterTrax Suggested
07/14/2015 10:20	3.95 mg/L	>=0.05	WaterTrax Suggested
07/21/2015 10:01	3.5 mg/L	>=0.05	WaterTrax Suggested
07/27/2015 11:09	4.40 mg/L	>=0.05	WaterTrax Suggested
08/02/2015 09:52	3.33 mg/L	>=0.05	WaterTrax Suggested
08/03/2015 10:31	3.52 mg/L	>=0.05	WaterTrax Suggested
08/11/2015 10:53	3.87 mg/L	>=0.05	WaterTrax Suggested
08/18/2015 10:20	3.85 mg/L	>=0.05	WaterTrax Suggested
08/25/2015 09:57	3.85 mg/L	>=0.05	WaterTrax Suggested
09/08/2015 11:03	3.97 mg/L	>=0.05	WaterTrax Suggested
09/15/2015 10:28	3.85 mg/L	>=0.05	WaterTrax Suggested
09/21/2015 11:07	3.40 mg/L	>=0.05	WaterTrax Suggested
09/29/2015 10:30	3.64 mg/L	>=0.05	WaterTrax Suggested
10/01/2015 11:01	4.05 mg/L	>=0.05	WaterTrax Suggested
10/06/2015 11:05	3.98 mg/L	>=0.05	WaterTrax Suggested
10/13/2015 10:49	3.01 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
10/19/2015 10:29	2.32 mg/L	>=0.05	WaterTrax Suggested
10/27/2015 10:30	3.00 mg/L	>=0.05	WaterTrax Suggested
11/03/2015 10:15	2.38 mg/L	>=0.05	WaterTrax Suggested
11/10/2015 10:40	2.61 mg/L	>=0.05	WaterTrax Suggested
11/16/2015 11:49	2.91 mg/L	>=0.05	WaterTrax Suggested
11/23/2015 11:17	3.24 mg/L	>=0.05	WaterTrax Suggested
11/30/2015 10:51	2.95 mg/L	>=0.05	WaterTrax Suggested
12/07/2015 11:43	3.12 mg/L	>=0.05	WaterTrax Suggested
12/14/2015 10:51	2.54 mg/L	>=0.05	WaterTrax Suggested
12/21/2015 10:55	2.69 mg/L	>=0.05	WaterTrax Suggested
12/29/2015 09:29	2.54 mg/L	>=0.05	WaterTrax Suggested

# samples:	66	**min:**	1.99 mg/L
# detects:	66	**max:**	4.40 mg/L
# non-detects:	0	**avg:**	3.014 mg/L (based on 66 numerical results)
# of Exceedences:	0		

Color (apparent)		**Criteria**	
*** 01/13/2015 10:16**	**19 ACU**	**<=15**	**User-Defined**
*** 01/20/2015 09:51**	**28 ACU**	**<=15**	**User-Defined**
02/03/2015 10:47	11 ACU	<=15	User-Defined
02/16/2015 10:47	15 ACU	<=15	User-Defined
02/24/2015 09:55	11 ACU	<=15	User-Defined
*** 03/03/2015 08:41**	**20 ACU**	**<=15**	**User-Defined**
03/10/2015 10:59	13 ACU	<=15	User-Defined
*** 03/24/2015 09:58**	**19 ACU**	**<=15**	**User-Defined**
03/31/2015 10:27	10 ACU	<=15	User-Defined

Color (apparent)		Criteria	
*** 04/07/2015 11:25**	**16 ACU**	**<=15**	**User-Defined**
*** 04/14/2015 09:01**	**24 ACU**	**<=15**	**User-Defined**
04/21/2015 10:25	10 ACU	<=15	User-Defined
04/27/2015 10:43	14 ACU	<=15	User-Defined
05/05/2015 10:49	6 ACU	<=15	User-Defined
*** 05/12/2015 10:29**	**16 ACU**	**<=15**	**User-Defined**
*** 05/19/2015 11:03**	**16 ACU**	**<=15**	**User-Defined**
05/26/2015 10:24	14 ACU	<=15	User-Defined
*** 06/09/2015 09:55**	**21 ACU**	**<=15**	**User-Defined**
06/16/2015 10:30	10 ACU	<=15	User-Defined
*** 06/22/2015 10:02**	**17 ACU**	**<=15**	**User-Defined**
*** 07/07/2015 10:40**	**22 ACU**	**<=15**	**User-Defined**
*** 07/14/2015 10:20**	**21 ACU**	**<=15**	**User-Defined**
07/21/2015 10:01	13 ACU	<=15	User-Defined
07/27/2015 11:09	15 ACU	<=15	User-Defined
08/02/2015 09:52	6 ACU	<=15	User-Defined
08/03/2015 10:31	10 ACU	<=15	User-Defined
08/11/2015 10:53	7 ACU	<=15	User-Defined
08/18/2015 10:20	12 ACU	<=15	User-Defined
*** 08/25/2015 09:57**	**19 ACU**	**<=15**	**User-Defined**
*** 09/08/2015 11:03**	**17 ACU**	**<=15**	**User-Defined**
*** 09/15/2015 10:28**	**26 ACU**	**<=15**	**User-Defined**
*** 09/29/2015 10:30**	**26 ACU**	**<=15**	**User-Defined**
*** 10/06/2015 11:05**	**21 ACU**	**<=15**	**User-Defined**
*** 10/13/2015 10:49**	**26 ACU**	**<=15**	**User-Defined**
*** 11/10/2015 10:40**	**28 ACU**	**<=15**	**User-Defined**

Color (apparent)		**Criteria**	
*** 11/16/2015 11:49**	**21 ACU**	**<=15**	**User-Defined**
*** 11/23/2015 11:17**	**20 ACU**	**<=15**	**User-Defined**
*** 11/30/2015 10:51**	**31 ACU**	**<=15**	**User-Defined**
*** 12/07/2015 11:43**	**33 ACU**	**<=15**	**User-Defined**
*** 12/14/2015 10:51**	**30 ACU**	**<=15**	**User-Defined**
*** 12/21/2015 10:55**	**25 ACU**	**<=15**	**User-Defined**

# samples:	41	**min:**	6 ACU
# detects:	41	**max:**	33 ACU
# non-detects:	0	**avg:**	18.024 ACU (based on 41 numerical results)
# of Exceedences:	25		

Escherichia coli / E. coli (counts)		**Criteria**	
01/06/2015 10:36	< 1 counts/100mL	<=0, P	Microbiological Standard
01/20/2015 09:51	< 1 counts/100mL	<=0, P	Microbiological Standard
02/10/2015 10:16	< 1 counts/100mL	<=0, P	Microbiological Standard
02/24/2015 10:56	< 1 counts/100mL	<=0, P	Microbiological Standard
03/10/2015 10:59	< 1 counts/100mL	<=0, P	Microbiological Standard
03/24/2015 09:58	< 1 counts/100mL	<=0, P	Microbiological Standard
04/07/2015 11:30	< 1 counts/100mL	<=0, P	Microbiological Standard
04/21/2015 10:25	< 1 counts/100mL	<=0, P	Microbiological Standard
05/12/2015 10:29	< 1 counts/100mL	<=0, P	Microbiological Standard
05/26/2015 10:24	< 1 counts/100mL	<=0, P	Microbiological Standard
06/09/2015 09:55	< 1 counts/100mL	<=0, P	Microbiological Standard
06/22/2015 10:02	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		**Criteria**	
07/07/2015 10:38	< 1 counts/100mL	<=0, P	Microbiological Standard
07/27/2015 11:09	< 1 counts/100mL	<=0, P	Microbiological Standard
08/11/2015 10:53	< 1 counts/100mL	<=0, P	Microbiological Standard
08/25/2015 09:57	< 1 counts/100mL	<=0, P	Microbiological Standard
09/08/2015 11:03	< 1 counts/100mL	<=0, P	Microbiological Standard
09/21/2015 11:04	< 1 counts/100mL	<=0, P	Microbiological Standard
10/06/2015 11:05	< 1 counts/100mL	<=0, P	Microbiological Standard
10/19/2015 10:29	< 1 counts/100mL	<=0, P	Microbiological Standard
11/03/2015 10:19	< 1 counts/100mL	<=0, P	Microbiological Standard
11/16/2015 11:49	< 1 counts/100mL	<=0, P	Microbiological Standard
11/30/2015 10:51	< 1 counts/100mL	<=0, P	Microbiological Standard
12/14/2015 10:51	< 1 counts/100mL	<=0, P	Microbiological Standard
12/24/2015 09:21	< 1 counts/100mL	<=0, P	Microbiological Standard
12/29/2015 09:29	< 1 counts/100mL	<=0, P	Microbiological Standard

# samples:	26	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	26	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

pH		**Criteria**
01/05/2015 11:30	8.15	
01/07/2015 11:40	8.08	
01/09/2015 09:55	8.28	
01/15/2015 10:45	7.81	
01/19/2015 09:45	8.34	
01/22/2015 09:45	8.17	
02/06/2015 09:35	8.04	

pH		**Criteria**	
02/11/2015 10:20	7.94		
02/23/2015 10:30	8.32		
09/21/2015 11:07	8.08		
09/29/2015 10:30	8.06		

# samples:	11	**min:**	7.81
# detects:	11	**max:**	8.34
# non-detects:	0	**avg:**	8.115 (based on 11 numerical results)
# of Exceedences:	0		

Temperature		**Criteria**	
01/05/2015 11:30	4.4 degrees C	<=15	AO
01/07/2015 11:40	4.5 degrees C	<=15	AO
01/09/2015 09:55	4.5 degrees C	<=15	AO
01/13/2015 10:16	4.5 degrees C	<=15	AO
01/15/2015 10:45	3.7 degrees C	<=15	AO
01/19/2015 09:45	4.5 degrees C	<=15	AO
01/20/2015 09:51	4.5 degrees C	<=15	AO
01/22/2015 09:45	4.5 degrees C	<=15	AO
02/03/2015 10:47	4.6 degrees C	<=15	AO
02/05/2015 09:30	4.6 degrees C	<=15	AO
02/06/2015 09:35	4.6 degrees C	<=15	AO
02/11/2015 10:20	4.7 degrees C	<=15	AO
02/16/2015 10:47	4.7 degrees C	<=15	AO
02/18/2015 08:45	4.0 degrees C	<=15	AO
02/23/2015 10:30	6.3 degrees C	<=15	AO
02/24/2015 09:55	5.0 degrees C	<=15	AO
03/03/2015 08:41	5.1 degrees C	<=15	AO
03/10/2015 10:59	5.2 degrees C	<=15	AO
03/16/2015 10:55	5.8 degrees C	<=15	AO
03/24/2015 09:58	6.2 degrees C	<=15	AO
03/31/2015 10:27	6.6 degrees C	<=15	AO
04/07/2015 11:25	7.1 degrees C	<=15	AO
04/14/2015 09:01	7.6 degrees C	<=15	AO
04/21/2015 10:25	9.1 degrees C	<=15	AO
04/27/2015 10:43	10 degrees C	<=15	AO
05/05/2015 10:49	11.4 degrees C	<=15	AO
05/12/2015 10:29	12.3 degrees C	<=15	AO
05/19/2015 11:03	13.4 degrees C	<=15	AO
05/26/2015 10:24	14.3 degrees C	<=15	AO

Temperature		Criteria	
*** 06/09/2015 09:55**	**16 degrees C**	**<=15**	**AO**
*** 06/16/2015 10:30**	**16 degrees C**	**<=15**	**AO**
*** 06/22/2015 10:02**	**16 degrees C**	**<=15**	**AO**
*** 07/07/2015 10:40**	**16.3 degrees C**	**<=15**	**AO**
*** 07/14/2015 10:20**	**16.6 degrees C**	**<=15**	**AO**
*** 07/21/2015 10:01**	**16.1 degrees C**	**<=15**	**AO**
*** 07/27/2015 11:09**	**15.6 degrees C**	**<=15**	**AO**
08/02/2015 09:52	14.9 degrees C	<=15	AO
*** 08/03/2015 10:31**	**15.8 degrees C**	**<=15**	**AO**
*** 08/11/2015 10:53**	**15.8 degrees C**	**<=15**	**AO**
*** 08/18/2015 10:20**	**15.7 degrees C**	**<=15**	**AO**
*** 08/25/2015 09:57**	**16.1 degrees C**	**<=15**	**AO**
09/08/2015 11:03	14.7 degrees C	<=15	AO
09/15/2015 10:28	14.4 degrees C	<=15	AO
09/21/2015 11:07	14 degrees C	<=15	AO
09/29/2015 10:30	13.2 degrees C	<=15	AO
*** 10/01/2015 11:01**	**15.4 degrees C**	**<=15**	**AO**
10/13/2015 10:49	12.3 degrees C	<=15	AO
10/19/2015 10:29	11.7 degrees C	<=15	AO
10/27/2015 10:30	11.0 degrees C	<=15	AO
11/03/2015 10:15	10.3 degrees C	<=15	AO
11/10/2015 10:40	9.1 degrees C	<=15	AO
11/16/2015 11:49	8.0 degrees C	<=15	AO
11/23/2015 11:17	6.3 degrees C	<=15	AO
11/30/2015 10:51	4.4 degrees C	<=15	AO
12/07/2015 11:43	3.5 degrees C	<=15	AO
12/21/2015 10:55	3.9 degrees C	<=15	AO
12/29/2015 09:29	4.0 degrees C	<=15	AO
# samples:	57	**min:**	3.5 degrees C

# detects:	57	**max:**	16.6 degrees C
# non-detects:	0	**avg:**	9.382 degrees C (based on 57 numerical results)
# of Exceedences:	12		

Total Coliforms (counts)		**Criteria**	
01/06/2015 10:36	< 1 counts/100mL	<=10	User-Defined
01/20/2015 09:51	< 1 counts/100mL	<=10	User-Defined
02/10/2015 10:16	< 1 counts/100mL	<=10	User-Defined
02/24/2015 10:56	< 1 counts/100mL	<=10	User-Defined
03/10/2015 10:59	< 1 counts/100mL	<=10	User-Defined
03/24/2015 09:58	< 1 counts/100mL	<=10	User-Defined
04/07/2015 11:30	< 1 counts/100mL	<=10	User-Defined
04/21/2015 10:25	< 1 counts/100mL	<=10	User-Defined
05/12/2015 10:29	< 1 counts/100mL	<=10	User-Defined
05/26/2015 10:24	< 1 counts/100mL	<=10	User-Defined
06/09/2015 09:55	< 1 counts/100mL	<=10	User-Defined
06/22/2015 10:02	< 1 counts/100mL	<=10	User-Defined
07/07/2015 10:38	< 1 counts/100mL	<=10	User-Defined
07/27/2015 11:09	< 1 counts/100mL	<=10	User-Defined
08/11/2015 10:53	< 1 counts/100mL	<=10	User-Defined
08/25/2015 09:57	< 1 counts/100mL	<=10	User-Defined
09/08/2015 11:03	< 1 counts/100mL	<=10	User-Defined
09/21/2015 11:04	< 1 counts/100mL	<=10	User-Defined
10/06/2015 11:05	< 1 counts/100mL	<=10	User-Defined
10/19/2015 10:29	< 1 counts/100mL	<=10	User-Defined
11/03/2015 10:19	< 1 counts/100mL	<=10	User-Defined
11/16/2015 11:49	< 1 counts/100mL	<=10	User-Defined
11/30/2015 10:51	< 1 counts/100mL	<=10	User-Defined
12/14/2015 10:51	< 1 counts/100mL	<=10	User-Defined
12/24/2015 09:21	< 1 counts/100mL	<=10	User-Defined
12/29/2015 09:29	< 1 counts/100mL	<=10	User-Defined

# samples:	26	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	26	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Turbidity		**Criteria**	
01/13/2015 10:16	1.30 NTU	<=5	User-Defined
01/20/2015 09:51	1.47 NTU	<=5	User-Defined
02/03/2015 10:47	1.30 NTU	<=5	User-Defined

Turbidity		Criteria	
02/16/2015 10:47	1.26 NTU	<=5	User-Defined
02/24/2015 09:55	1.27 NTU	<=5	User-Defined
03/03/2015 08:41	1.10 NTU	<=5	User-Defined
03/10/2015 10:59	1.24 NTU	<=5	User-Defined
03/16/2015 10:55	1.24 NTU	<=5	User-Defined
03/24/2015 09:58	1.19 NTU	<=5	User-Defined
03/31/2015 10:27	1.11 NTU	<=5	User-Defined
04/07/2015 11:25	1.18 NTU	<=5	User-Defined
04/14/2015 09:01	1.13 NTU	<=5	User-Defined
04/21/2015 10:25	0.83 NTU	<=5	User-Defined
04/27/2015 10:43	1.12 NTU	<=5	User-Defined
05/05/2015 10:49	1.01 NTU	<=5	User-Defined
05/12/2015 10:29	0.76 NTU	<=5	User-Defined
05/19/2015 11:03	0.92 NTU	<=5	User-Defined
05/26/2015 10:24	1.09 NTU	<=5	User-Defined
06/09/2015 09:55	0.60 NTU	<=5	User-Defined
06/16/2015 10:30	0.89 NTU	<=5	User-Defined
06/22/2015 10:02	0.86 NTU	<=5	User-Defined
07/07/2015 10:40	1.40 NTU	<=5	User-Defined
07/14/2015 10:20	1.20 NTU	<=5	User-Defined
07/21/2015 10:01	0.87 NTU	<=5	User-Defined
07/27/2015 11:09	0.85 NTU	<=5	User-Defined
08/02/2015 09:52	0.67 NTU	<=5	User-Defined
08/03/2015 10:31	0.97 NTU	<=5	User-Defined
08/11/2015 10:53	0.82 NTU	<=5	User-Defined
08/18/2015 10:20	0.87 NTU	<=5	User-Defined
08/25/2015 09:57	1.00 NTU	<=5	User-Defined
09/08/2015 11:03	1.21 NTU	<=5	User-Defined
09/15/2015 10:28	1.95 NTU	<=5	User-Defined
09/29/2015 10:30	1.41 NTU	<=5	User-Defined
10/06/2015 11:05	1.06 NTU	<=5	User-Defined
10/13/2015 10:49	1.43 NTU	<=5	User-Defined
10/27/2015 10:30	1.30 NTU	<=5	User-Defined
11/03/2015 10:15	1.32 NTU	<=5	User-Defined
11/10/2015 10:40	1.23 NTU	<=5	User-Defined
11/16/2015 11:49	1.39 NTU	<=5	User-Defined
11/23/2015 11:17	1.55 NTU	<=5	User-Defined
11/30/2015 10:51	1.39 NTU	<=5	User-Defined
12/07/2015 11:43	1.85 NTU	<=5	User-Defined

Turbidity		**Criteria**	
12/14/2015 10:51	2.01 NTU	<=5	User-Defined
12/21/2015 10:55	1.82 NTU	<=5	User-Defined

# samples:	44	**min:**	0.60 NTU
# detects:	44	**max:**	2.01 NTU
# non-detects:	0	**avg:**	1.192 NTU (based on 44 numerical results)
# of Exceedences:	0	**95th percentile:**	1.925 NTU

Facility: Test Stations
Sampling Point: Wilden Test station (1-14-MD, 2899D)

Chlorine (free)		**Criteria**	
01/06/2015 08:25	2.17 mg/L	>=0.05	WaterTrax Suggested
01/13/2015 07:55	2.01 mg/L	>=0.05	WaterTrax Suggested
02/16/2015 08:20	1.99 mg/L	>=0.05	WaterTrax Suggested
02/24/2015 10:39	1.92 mg/L	>=0.05	WaterTrax Suggested
03/03/2015 07:58	2.40 mg/L	>=0.05	WaterTrax Suggested
03/10/2015 08:26	2.16 mg/L	>=0.05	WaterTrax Suggested
03/16/2015 08:10	2.14 mg/L	>=0.05	WaterTrax Suggested
03/24/2015 07:57	2.37 mg/L	>=0.05	WaterTrax Suggested
03/31/2015 08:08	2.03 mg/L	>=0.05	WaterTrax Suggested
04/07/2015 09:20	1.64 mg/L	>=0.05	WaterTrax Suggested
04/14/2015 10:37	2.17 mg/L	>=0.05	WaterTrax Suggested
04/21/2015 08:08	2.29 mg/L	>=0.05	WaterTrax Suggested
04/27/2015 08:27	2.32 mg/L	>=0.05	WaterTrax Suggested
05/05/2015 08:35	2.76 mg/L	>=0.05	WaterTrax Suggested
05/12/2015 08:18	3.11 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
05/19/2015 08:56	3.35 mg/L	>=0.05	WaterTrax Suggested
05/26/2015 08:15	2.95 mg/L	>=0.05	WaterTrax Suggested
06/09/2015 07:57	3.15 mg/L	>=0.05	WaterTrax Suggested
06/16/2015 08:11	3.00 mg/L	>=0.05	WaterTrax Suggested
06/22/2015 07:59	3.10 mg/L	>=0.05	WaterTrax Suggested
06/30/2015 07:59	3.09 mg/L	>=0.05	WaterTrax Suggested
07/07/2015 08:26	2.64 mg/L	>=0.05	WaterTrax Suggested
07/14/2015 08:15	3.43 mg/L	>=0.05	WaterTrax Suggested
07/21/2015 08:16	2.96 mg/L	>=0.05	WaterTrax Suggested
07/27/2015 09:03	3.30 mg/L	>=0.05	WaterTrax Suggested
08/02/2015 08:02	3.62 mg/L	>=0.05	WaterTrax Suggested
08/03/2015 08:21	3.05 mg/L	>=0.05	WaterTrax Suggested
08/11/2015 08:51	2.06 mg/L	>=0.05	WaterTrax Suggested
08/18/2015 08:14	3.60 mg/L	>=0.05	WaterTrax Suggested
08/25/2015 07:58	3.56 mg/L	>=0.05	WaterTrax Suggested
09/08/2015 08:57	3.40 mg/L	>=0.05	WaterTrax Suggested
09/15/2015 08:17	3.35 mg/L	>=0.05	WaterTrax Suggested
09/21/2015 08:35	2.89 mg/L	>=0.05	WaterTrax Suggested
09/29/2015 08:18	3.17 mg/L	>=0.05	WaterTrax Suggested
10/06/2015 08:37	2.71 mg/L	>=0.05	WaterTrax Suggested
10/13/2015 08:28	2.53 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
10/19/2015 08:17	2.03 mg/L	>=0.05	WaterTrax Suggested
10/27/2015 08:30	1.62 mg/L	>=0.05	WaterTrax Suggested
11/03/2015 08:20	0.90 mg/L	>=0.05	WaterTrax Suggested
11/10/2015 08:30	1.61 mg/L	>=0.05	WaterTrax Suggested
11/16/2015 09:35	1.61 mg/L	>=0.05	WaterTrax Suggested
11/23/2015 08:55	1.91 mg/L	>=0.05	WaterTrax Suggested
11/30/2015 08:47	1.89 mg/L	>=0.05	WaterTrax Suggested
12/07/2015 09:04	2.02 mg/L	>=0.05	WaterTrax Suggested
12/14/2015 08:37	1.76 mg/L	>=0.05	WaterTrax Suggested
12/21/2015 08:32	1.83 mg/L	>=0.05	WaterTrax Suggested

# samples:	46	**min:**	0.90 mg/L
# detects:	46	**max:**	3.62 mg/L
# non-detects:	0	**avg:**	2.512 mg/L (based on 46 numerical results)
# of Exceedences:	0		

Color (apparent)		**Criteria**	
01/06/2015 08:25	4 ACU	<=15	User-Defined
*** 01/13/2015 07:55**	**18 ACU**	**<=15**	**User-Defined**
*** 02/16/2015 08:20**	**16 ACU**	**<=15**	**User-Defined**
02/24/2015 10:39	13 ACU	<=15	User-Defined
*** 03/03/2015 07:58**	**16 ACU**	**<=15**	**User-Defined**
03/10/2015 08:26	11 ACU	<=15	User-Defined
03/16/2015 08:10	7 ACU	<=15	User-Defined
*** 03/24/2015 07:57**	**16 ACU**	**<=15**	**User-Defined**
03/31/2015 08:08	7 ACU	<=15	User-Defined
04/07/2015 09:20	13 ACU	<=15	User-Defined

Color (apparent)		Criteria	
*** 04/14/2015 10:37**	**23 ACU**	**<=15**	**User-Defined**
04/21/2015 08:08	10 ACU	<=15	User-Defined
04/27/2015 08:27	10 ACU	<=15	User-Defined
05/12/2015 08:18	6 ACU	<=15	User-Defined
05/19/2015 08:56	11 ACU	<=15	User-Defined
*** 05/26/2015 08:15**	**18 ACU**	**<=15**	**User-Defined**
06/09/2015 07:57	13 ACU	<=15	User-Defined
06/16/2015 08:11	4 ACU	<=15	User-Defined
*** 06/22/2015 07:59**	**17 ACU**	**<=15**	**User-Defined**
*** 07/07/2015 08:26**	**20 ACU**	**<=15**	**User-Defined**
*** 07/14/2015 08:15**	**22 ACU**	**<=15**	**User-Defined**
07/21/2015 08:16	13 ACU	<=15	User-Defined
07/27/2015 09:03	12 ACU	<=15	User-Defined
08/02/2015 08:02	12 ACU	<=15	User-Defined
08/03/2015 08:21	9 ACU	<=15	User-Defined
*** 08/11/2015 08:51**	**19 ACU**	**<=15**	**User-Defined**
08/18/2015 08:14	3 ACU	<=15	User-Defined
*** 08/25/2015 07:58**	**23 ACU**	**<=15**	**User-Defined**
*** 09/08/2015 08:57**	**21 ACU**	**<=15**	**User-Defined**
*** 09/15/2015 08:17**	**18 ACU**	**<=15**	**User-Defined**
*** 09/29/2015 08:18**	**24 ACU**	**<=15**	**User-Defined**
*** 10/06/2015 08:37**	**22 ACU**	**<=15**	**User-Defined**
*** 10/13/2015 08:28**	**23 ACU**	**<=15**	**User-Defined**
*** 10/19/2015 08:17**	**17 ACU**	**<=15**	**User-Defined**
*** 11/10/2015 08:30**	**17 ACU**	**<=15**	**User-Defined**
11/16/2015 09:35	14 ACU	<=15	User-Defined
*** 11/23/2015 08:55**	**23 ACU**	**<=15**	**User-Defined**

Color (apparent)		**Criteria**	
*** 11/30/2015 08:47**	**22 ACU**	**<=15**	**User-Defined**
*** 12/07/2015 09:04**	**25 ACU**	**<=15**	**User-Defined**
*** 12/14/2015 08:37**	**23 ACU**	**<=15**	**User-Defined**
*** 12/21/2015 08:32**	**32 ACU**	**<=15**	**User-Defined**

# samples:	41	**min:**	3 ACU
# detects:	41	**max:**	32 ACU
# non-detects:	0	**avg:**	15.780 ACU (based on 41 numerical results)
# of Exceedences:	23		

Escherichia coli / E. coli (counts)		**Criteria**	
01/13/2015 07:55	< 1 counts/100mL	<=0, P	Microbiological Standard
01/27/2015 09:10	ND counts/100mL	<=0, P	Microbiological Standard
02/16/2015 08:20	< 1 counts/100mL	<=0, P	Microbiological Standard
03/03/2015 07:58	< 1 counts/100mL	<=0, P	Microbiological Standard
03/16/2015 08:10	< 1 counts/100mL	<=0, P	Microbiological Standard
03/31/2015 08:08	< 1 counts/100mL	<=0, P	Microbiological Standard
04/14/2015 10:37	< 1 counts/100mL	<=0, P	Microbiological Standard
04/27/2015 08:27	< 1 counts/100mL	<=0, P	Microbiological Standard
05/05/2015 08:34	< 1 counts/100mL	<=0, P	Microbiological Standard
05/19/2015 08:56	< 1 counts/100mL	<=0, P	Microbiological Standard
06/02/2015 08:14	< 1 counts/100mL	<=0, P	Microbiological Standard
06/16/2015 08:11	< 1 counts/100mL	<=0, P	Microbiological Standard
06/30/2015 07:59	< 1 counts/100mL	<=0, P	Microbiological Standard
07/14/2015 08:15	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		**Criteria**	
07/21/2015 08:16	< 1 counts/100mL	<=0, P	Microbiological Standard
08/04/2015 08:21	< 1 counts/100mL	<=0, P	Microbiological Standard
08/18/2015 08:14	< 1 counts/100mL	<=0, P	Microbiological Standard
09/01/2015 08:33	< 1 counts/100mL	<=0, P	Microbiological Standard
09/15/2015 08:17	< 1 counts/100mL	<=0, P	Microbiological Standard
09/29/2015 08:18	< 1 counts/100mL	<=0, P	Microbiological Standard
10/13/2015 08:28	< 1 counts/100mL	<=0, P	Microbiological Standard
10/27/2015 08:30	< 1 counts/100mL	<=0, P	Microbiological Standard
11/10/2015 08:30	< 1 counts/100mL	<=0, P	Microbiological Standard
11/23/2015 08:55	< 1 counts/100mL	<=0, P	Microbiological Standard
12/07/2015 09:04	< 1 counts/100mL	<=0, P	Microbiological Standard
12/21/2015 08:32	< 1 counts/100mL	<=0, P	Microbiological Standard

# samples:	26	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	26	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Total Coliforms (counts)		**Criteria**	
01/13/2015 07:55	< 1 counts/100mL	<=10	User-Defined
01/27/2015 09:10	ND counts/100mL	<=10	User-Defined
02/16/2015 08:20	< 1 counts/100mL	<=10	User-Defined
03/03/2015 07:58	< 1 counts/100mL	<=10	User-Defined
03/16/2015 08:10	< 1 counts/100mL	<=10	User-Defined
03/31/2015 08:08	< 1 counts/100mL	<=10	User-Defined
04/14/2015 10:37	< 1 counts/100mL	<=10	User-Defined
04/27/2015 08:27	< 1 counts/100mL	<=10	User-Defined
05/05/2015 08:34	< 1 counts/100mL	<=10	User-Defined
05/19/2015 08:56	< 1 counts/100mL	<=10	User-Defined
06/02/2015 08:14	< 1 counts/100mL	<=10	User-Defined

Total Coliforms (counts)		**Criteria**	
06/16/2015 08:11	< 1 counts/100mL	<=10	User-Defined
06/30/2015 07:59	< 1 counts/100mL	<=10	User-Defined
07/14/2015 08:15	< 1 counts/100mL	<=10	User-Defined
07/21/2015 08:16	< 1 counts/100mL	<=10	User-Defined
08/04/2015 08:21	< 1 counts/100mL	<=10	User-Defined
08/18/2015 08:14	< 1 counts/100mL	<=10	User-Defined
09/01/2015 08:33	< 1 counts/100mL	<=10	User-Defined
09/15/2015 08:17	< 1 counts/100mL	<=10	User-Defined
09/29/2015 08:18	< 1 counts/100mL	<=10	User-Defined
10/13/2015 08:28	< 1 counts/100mL	<=10	User-Defined
10/27/2015 08:30	< 1 counts/100mL	<=10	User-Defined
11/10/2015 08:30	< 1 counts/100mL	<=10	User-Defined
11/23/2015 08:55	< 1 counts/100mL	<=10	User-Defined
12/07/2015 09:04	< 1 counts/100mL	<=10	User-Defined
12/21/2015 08:32	< 1 counts/100mL	<=10	User-Defined

# samples:	26	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	26	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Turbidity		**Criteria**	
01/06/2015 08:25	1.25 NTU	<=5	User-Defined
01/13/2015 07:55	1.04 NTU	<=5	User-Defined
02/16/2015 08:20	1.28 NTU	<=5	User-Defined
02/24/2015 10:39	1.43 NTU	<=5	User-Defined
03/03/2015 07:58	1.34 NTU	<=5	User-Defined
03/10/2015 08:26	1.35 NTU	<=5	User-Defined
03/16/2015 08:10	1.28 NTU	<=5	User-Defined
03/24/2015 07:57	0.90 NTU	<=5	User-Defined
03/31/2015 08:08	0.91 NTU	<=5	User-Defined
04/07/2015 09:20	1.27 NTU	<=5	User-Defined
04/14/2015 10:37	1.48 NTU	<=5	User-Defined
04/21/2015 08:08	0.72 NTU	<=5	User-Defined
04/27/2015 08:27	0.76 NTU	<=5	User-Defined
05/12/2015 08:18	1.02 NTU	<=5	User-Defined
05/19/2015 08:56	1.06 NTU	<=5	User-Defined
05/26/2015 08:15	0.91 NTU	<=5	User-Defined
06/09/2015 07:57	0.90 NTU	<=5	User-Defined
06/16/2015 08:11	0.82 NTU	<=5	User-Defined

Turbidity		Criteria	
06/22/2015 07:59	0.78 NTU	<=5	User-Defined
07/07/2015 08:26	1.06 NTU	<=5	User-Defined
07/14/2015 08:15	0.88 NTU	<=5	User-Defined
07/21/2015 08:16	0.67 NTU	<=5	User-Defined
07/27/2015 09:03	0.75 NTU	<=5	User-Defined
08/02/2015 08:02	0.79 NTU	<=5	User-Defined
08/03/2015 08:21	0.73 NTU	<=5	User-Defined
08/11/2015 08:51	0.68 NTU	<=5	User-Defined
08/18/2015 08:14	0.77 NTU	<=5	User-Defined
08/25/2015 07:58	0.93 NTU	<=5	User-Defined
09/08/2015 08:57	0.97 NTU	<=5	User-Defined
09/15/2015 08:17	1.38 NTU	<=5	User-Defined
09/29/2015 08:18	1.27 NTU	<=5	User-Defined
10/06/2015 08:37	1.06 NTU	<=5	User-Defined
10/13/2015 08:28	1.05 NTU	<=5	User-Defined
10/19/2015 08:17	1.24 NTU	<=5	User-Defined
10/27/2015 08:30	1.22 NTU	<=5	User-Defined
11/03/2015 08:20	1.02 NTU	<=5	User-Defined
11/10/2015 08:30	1.23 NTU	<=5	User-Defined
11/16/2015 09:35	1.34 NTU	<=5	User-Defined
11/23/2015 08:55	1.36 NTU	<=5	User-Defined
11/30/2015 08:47	1.29 NTU	<=5	User-Defined
12/07/2015 09:04	1.30 NTU	<=5	User-Defined
12/14/2015 08:37	1.63 NTU	<=5	User-Defined
12/21/2015 08:32	1.64 NTU	<=5	User-Defined

# samples:	43	**min:**	0.67 NTU
# detects:	43	**max:**	1.64 NTU
# non-detects:	0	**avg:**	1.087 NTU (based on 43 numerical results)
# of Exceedences:	0	**95th percentile:**	1.600 NTU

Result Legend:

P=present, A=absent, PR=presumptive, ND=non-detect, U=non-detect, OR=over-range, OG=overgrown,
TNTC=too numerous to count, NR=no result, NT=not tested, IG=ignore, ER=external report, SC=see comment

< means less than lower detection limit shown
> means greater than upper detection limit shown
« means detected & less than number shown
» means detected & greater than number shown

*** Indicates Criteria is exceeded**

Facility: Mill Creek Raw - Intake; Mill Creek Intake
Sampling Point: Mill Creek Raw (43-1-SR, 28978)

Color (apparent)		Criteria	
* 01/06/2015 11:52	91 ACU	<=35	User-Defined
* 01/13/2015 11:55	95 ACU	<=35	User-Defined
* 01/15/2015 12:00	89 ACU	<=35	User-Defined
* 01/20/2015 11:23	82 ACU	<=35	User-Defined
* 01/22/2015 11:20	81 ACU	<=35	User-Defined
* 02/02/2015 13:10	88 ACU	<=35	User-Defined
* 02/03/2015 12:45	90 ACU	<=35	User-Defined
* 02/05/2015 12:30	93 ACU	<=35	User-Defined
* 02/06/2015 10:45	92 ACU	<=35	User-Defined
* 02/13/2015 13:15	290 ACU	<=35	User-Defined
* 02/16/2015 12:57	266 ACU	<=35	User-Defined
* 02/18/2015 12:50	246 ACU	<=35	User-Defined
* 02/23/2015 13:00	202 ACU	<=35	User-Defined
* 02/24/2015 11:30	203 ACU	<=35	User-Defined
* 03/03/2015 11:46	140 ACU	<=35	User-Defined
* 03/10/2015 12:49	135 ACU	<=35	User-Defined
* 03/16/2015 13:26	235 ACU	<=35	User-Defined
* 03/24/2015 12:42	248 ACU	<=35	User-Defined
* 03/31/2015 11:50	304 ACU	<=35	User-Defined
* 04/07/2015 13:30	202 ACU	<=35	User-Defined

Color (apparent)		Criteria	
* 04/14/2015 13:00	182 ACU	<=35	User-Defined
* 04/21/2015 11:56	192 ACU	<=35	User-Defined
* 04/27/2015 13:35	187 ACU	<=35	User-Defined
* 05/05/2015 12:59	158 ACU	<=35	User-Defined
* 05/12/2015 12:35	147 ACU	<=35	User-Defined
* 05/19/2015 12:52	143 ACU	<=35	User-Defined
* 05/26/2015 12:37	140 ACU	<=35	User-Defined
* 06/02/2015 12:30	115 ACU	<=35	User-Defined
* 06/09/2015 11:55	135 ACU	<=35	User-Defined
* 06/16/2015 11:55	119 ACU	<=35	User-Defined
* 06/22/2015 11:41	113 ACU	<=35	User-Defined
* 07/07/2015 13:07	111 ACU	<=35	User-Defined
* 07/14/2015 12:31	111 ACU	<=35	User-Defined
* 07/27/2015 13:14	95 ACU	<=35	User-Defined
* 08/03/2015 12:45	100 ACU	<=35	User-Defined
* 08/11/2015 12:41	99 ACU	<=35	User-Defined
* 08/18/2015 12:30	101 ACU	<=35	User-Defined
* 08/25/2015 11:55	86 ACU	<=35	User-Defined
* 09/08/2015 13:13	109 ACU	<=35	User-Defined
* 09/15/2015 11:55	98 ACU	<=35	User-Defined
* 09/29/2015 12:33	83 ACU	<=35	User-Defined

Color (apparent)		Criteria	
*** 10/06/2015 13:04**	**83 ACU**	**<=35**	**User-Defined**
*** 10/13/2015 12:40**	**54 ACU**	**<=35**	**User-Defined**
*** 10/19/2015 12:34**	**43 ACU**	**<=35**	**User-Defined**
*** 11/11/2015 12:42**	**154 ACU**	**<=35**	**User-Defined**
*** 11/17/2015 09:27**	**137 ACU**	**<=35**	**User-Defined**
*** 11/24/2015 12:40**	**139 ACU**	**<=35**	**User-Defined**
*** 12/08/2015 09:43**	**147 ACU**	**<=35**	**User-Defined**
*** 12/15/2015 11:50**	**133 ACU**	**<=35**	**User-Defined**
*** 12/22/2015 09:34**	**136 ACU**	**<=35**	**User-Defined**
*** 12/29/2015 11:08**	**130 ACU**	**<=35**	**User-Defined**

# samples:	51	**min:**	43 ACU
# detects:	51	**max:**	304 ACU
# non-detects:	0	**avg:**	138.275 ACU (based on 51 numerical results)
# of Exceedences:	51		

Escherichia coli / E. coli (counts)		Criteria	
01/06/2015 11:52	< 1 counts/100mL	<=0, P	Microbiological Standard
01/13/2015 11:55	< 1 counts/100mL	<=0, P	Microbiological Standard
*** 01/20/2015 11:23**	**3 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 01/27/2015 12:55**	**8 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 02/03/2015 12:45**	**8 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 02/10/2015 11:50**	**11 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 02/16/2015 12:57**	**4 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 02/24/2015 13:14**	**1 counts/100mL**	**<=0, P**	**Microbiological Standard**

Escherichia coli / E. coli (counts)		**Criteria**	
*** 03/03/2015 11:46**	**1 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 03/10/2015 12:49**	**2 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 03/16/2015 13:26**	**7 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 03/24/2015 12:42**	**10 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 03/31/2015 11:50**	**5 counts/100mL**	**<=0, P**	**Microbiological Standard**
04/07/2015 13:30	< 1 counts/100mL	<=0, P	Microbiological Standard
*** 04/14/2015 12:57**	**20 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 04/27/2015 13:34**	**8 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 05/05/2015 12:59**	**1 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 05/12/2015 12:35**	**13 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 05/19/2015 12:52**	**3 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 05/26/2015 12:37**	**98 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 06/02/2015 12:30**	**27 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 06/16/2015 11:55**	**32 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 06/22/2015 11:41**	**30 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 06/30/2015 12:00**	**50 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 07/07/2015 13:07**	**49 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 07/10/2015 13:55**	**40 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 07/14/2015 12:31**	**38 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 07/17/2015 11:25**	**70 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 07/21/2015 11:30**	**60 counts/100mL**	**<=0, P**	**Microbiological Standard**

Escherichia coli / E. coli (counts)		Criteria	
* 07/24/2015 14:11	53 counts/100mL	<=0, P	Microbiological Standard
* 07/27/2015 13:14	55 counts/100mL	<=0, P	Microbiological Standard
* 08/04/2015 12:05	33 counts/100mL	<=0, P	Microbiological Standard
* 08/11/2015 12:41	19 counts/100mL	<=0, P	Microbiological Standard
* 08/18/2015 12:30	16 counts/100mL	<=0, P	Microbiological Standard
* 08/25/2015 11:05	33 counts/100mL	<=0, P	Microbiological Standard
* 09/01/2015 12:36	200 counts/100mL	<=0, P	Microbiological Standard
* 09/08/2015 13:13	47 counts/100mL	<=0, P	Microbiological Standard
* 09/15/2015 11:56	9 counts/100mL	<=0, P	Microbiological Standard
* 09/21/2015 13:04	7 counts/100mL	<=0, P	Microbiological Standard
* 09/29/2015 12:33	7 counts/100mL	<=0, P	Microbiological Standard
* 10/06/2015 13:04	17 counts/100mL	<=0, P	Microbiological Standard
* 10/13/2015 12:40	140 counts/100mL	<=0, P	Microbiological Standard
* 10/19/2015 12:34	130 counts/100mL	<=0, P	Microbiological Standard
* 10/27/2015 12:25	21 counts/100mL	<=0, P	Microbiological Standard
* 11/03/2015 12:05	1 counts/100mL	<=0, P	Microbiological Standard
* 11/10/2015 12:42	4 counts/100mL	<=0, P	Microbiological Standard
* 11/17/2015 09:27	11 counts/100mL	<=0, P	Microbiological Standard
* 11/24/2015 12:40	5 counts/100mL	<=0, P	Microbiological Standard
* 12/01/2015 09:18	3 counts/100mL	<=0, P	Microbiological Standard
* 12/08/2015 09:43	4 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		Criteria	
*** 12/15/2015 11:47**	**3 counts/100mL**	**<=0, P**	**Microbiological Standard**
*** 12/22/2015 09:34**	**3 counts/100mL**	**<=0, P**	**Microbiological Standard**
12/29/2015 11:08	< 1 counts/100mL	<=0, P	Microbiological Standard

# samples:	53	**min:**	< 1 counts/100mL
# detects:	49	**max:**	200 counts/100mL
# non-detects:	4	**Geometric Mean:**	12.623 counts/100mL (based on 49 numerical results)
# of Exceedences:	49		

pH		Criteria
01/20/2015 11:23	7.04	
02/03/2015 12:45	6.91	
05/05/2015 12:59	6.95	
05/12/2015 12:35	7.01	
05/19/2015 12:52	7.10	
05/26/2015 12:37	7.13	
06/02/2015 12:30	6.97	
06/09/2015 11:55	7.29	
06/16/2015 11:55	7.25	
06/22/2015 11:41	7.23	
07/07/2015 13:07	7.37	
07/14/2015 12:31	7.35	
07/27/2015 13:14	7.15	
08/03/2015 12:45	7.41	
08/11/2015 12:41	7.48	
08/18/2015 12:30	7.44	
08/25/2015 11:55	7.35	
09/08/2015 13:13	7.55	
09/15/2015 11:55	7.26	
09/29/2015 12:33	7.3	
10/13/2015 12:40	7.35	
10/19/2015 12:34	7.28	
11/03/2015 12:05	8.00	
11/11/2015 12:42	7.41	

# samples:	24	**min:**	6.91
# detects:	24	**max:**	8.00
# non-detects:	0	**avg:**	7.274 (based on 24 numerical results)

WaterTrax

# of Exceedences:	0

Total Coliforms (counts)		Criteria	
* 01/06/2015 11:52	29 counts/100mL	<=10	User-Defined
* 01/13/2015 11:55	58 counts/100mL	<=10	User-Defined
* 01/20/2015 11:23	53 counts/100mL	<=10	User-Defined
* 01/27/2015 12:55	57 counts/100mL	<=10	User-Defined
* 02/03/2015 12:45	19 counts/100mL	<=10	User-Defined
* 02/10/2015 11:50	120 counts/100mL	<=10	User-Defined
* 02/16/2015 12:57	47 counts/100mL	<=10	User-Defined
* 02/24/2015 13:14	20 counts/100mL	<=10	User-Defined
* 03/03/2015 11:46	11 counts/100mL	<=10	User-Defined
* 03/10/2015 12:49	28 counts/100mL	<=10	User-Defined
* 03/16/2015 13:26	59 counts/100mL	<=10	User-Defined
* 03/24/2015 12:42	48 counts/100mL	<=10	User-Defined
* 03/31/2015 11:50	75 counts/100mL	<=10	User-Defined
* 04/07/2015 13:30	41 counts/100mL	<=10	User-Defined
* 04/14/2015 12:57	53 counts/100mL	<=10	User-Defined
* 04/27/2015 13:34	41 counts/100mL	<=10	User-Defined
* 05/05/2015 12:59	46 counts/100mL	<=10	User-Defined
* 05/12/2015 12:35	120 counts/100mL	<=10	User-Defined
* 05/19/2015 12:52	340 counts/100mL	<=10	User-Defined
* 05/26/2015 12:37	670 counts/100mL	<=10	User-Defined

Total Coliforms (counts)		Criteria	
* 06/02/2015 12:30	330 counts/100mL	<=10	User-Defined
* 06/16/2015 11:55	750 counts/100mL	<=10	User-Defined
* 06/22/2015 11:41	1,000 counts/100mL	<=10	User-Defined
* 06/30/2015 12:00	360 counts/100mL	<=10	User-Defined
* 07/07/2015 13:07	> 1,100 counts/100mL	<=10	User-Defined
* 07/10/2015 13:55	> 840 counts/100mL	<=10	User-Defined
* 07/14/2015 12:31	> 170 counts/100mL	<=10	User-Defined
* 07/17/2015 11:25	850 counts/100mL	<=10	User-Defined
* 07/21/2015 11:30	> 2,300 counts/100mL	<=10	User-Defined
* 07/24/2015 14:11	1,200 counts/100mL	<=10	User-Defined
* 07/27/2015 13:14	> 350 counts/100mL	<=10	User-Defined
* 08/04/2015 12:05	1,000 counts/100mL	<=10	User-Defined
* 08/11/2015 12:41	240 counts/100mL	<=10	User-Defined
* 08/18/2015 12:30	1,600 counts/100mL	<=10	User-Defined
* 08/25/2015 11:05	2,100 counts/100mL	<=10	User-Defined
* 09/01/2015 12:36	1,300 counts/100mL	<=10	User-Defined
* 09/08/2015 13:13	1,400 counts/100mL	<=10	User-Defined
* 09/15/2015 11:56	> 640 counts/100mL	<=10	User-Defined
* 09/21/2015 13:04	78 counts/100mL	<=10	User-Defined
* 09/29/2015 12:33	> 270 counts/100mL	<=10	User-Defined
* 10/06/2015 13:04	180 counts/100mL	<=10	User-Defined

Total Coliforms (counts)			Criteria	
*** 10/13/2015 12:40**	**> 290**	**counts/100mL**	**<=10**	**User-Defined**
*** 10/19/2015 12:34**	**260**	**counts/100mL**	**<=10**	**User-Defined**
*** 10/27/2015 12:25**	**> 260**	**counts/100mL**	**<=10**	**User-Defined**
*** 11/03/2015 12:05**	**110**	**counts/100mL**	**<=10**	**User-Defined**
*** 11/10/2015 12:42**	**70**	**counts/100mL**	**<=10**	**User-Defined**
*** 11/17/2015 09:27**	**71**	**counts/100mL**	**<=10**	**User-Defined**
*** 11/24/2015 12:40**	**46**	**counts/100mL**	**<=10**	**User-Defined**
*** 12/01/2015 09:18**	**81**	**counts/100mL**	**<=10**	**User-Defined**
*** 12/08/2015 09:43**	**33**	**counts/100mL**	**<=10**	**User-Defined**
*** 12/15/2015 11:47**	**20**	**counts/100mL**	**<=10**	**User-Defined**
*** 12/22/2015 09:34**	**22**	**counts/100mL**	**<=10**	**User-Defined**
12/29/2015 11:08	10	counts/100mL	<=10	User-Defined

# samples:	53	**min:**	10 counts/100mL
# detects:	53	**max:**	> 2,300 counts/100mL
# non-detects:	0	**Geometric Mean:**	117.370 counts/100mL (based on 44 numerical results)
# of Exceedences:	52		

Turbidity			Criteria	
01/06/2015 11:52	1.76	NTU	<=5	User-Defined
01/13/2015 11:55	1.42	NTU	<=5	User-Defined
01/15/2015 12:00	1.63	NTU	<=5	User-Defined
01/20/2015 11:23	1.30	NTU	<=5	User-Defined
01/22/2015 11:20	1.54	NTU	<=5	User-Defined
02/02/2015 13:10	1.97	NTU	<=5	User-Defined
02/05/2015 12:30	1.62	NTU	<=5	User-Defined
02/06/2015 10:45	1.67	NTU	<=5	User-Defined
*** 02/13/2015 13:15**	**12.6**	**NTU**	**<=5**	**User-Defined**

Turbidity		Criteria	
*** 02/16/2015 12:57**	**6.94 NTU**	**<=5**	**User-Defined**
*** 02/18/2015 12:50**	**7.06 NTU**	**<=5**	**User-Defined**
02/23/2015 13:00	4.11 NTU	<=5	User-Defined
02/24/2015 11:30	3.67 NTU	<=5	User-Defined
03/03/2015 11:46	2.82 NTU	<=5	User-Defined
03/10/2015 12:49	2.85 NTU	<=5	User-Defined
*** 03/16/2015 13:26**	**6.51 NTU**	**<=5**	**User-Defined**
*** 03/24/2015 12:42**	**8.53 NTU**	**<=5**	**User-Defined**
*** 03/31/2015 11:50**	**16.5 NTU**	**<=5**	**User-Defined**
*** 04/07/2015 13:30**	**202 NTU**	**<=5**	**User-Defined**
04/14/2015 13:00	4.38 NTU	<=5	User-Defined
04/21/2015 11:56	4.27 NTU	<=5	User-Defined
04/27/2015 13:35	4.80 NTU	<=5	User-Defined
05/05/2015 12:59	3.73 NTU	<=5	User-Defined
05/12/2015 12:35	2.79 NTU	<=5	User-Defined
05/19/2015 12:52	4.05 NTU	<=5	User-Defined
05/26/2015 12:37	4.40 NTU	<=5	User-Defined
06/02/2015 12:30	3.42 NTU	<=5	User-Defined
*** 06/09/2015 11:55**	**5.41 NTU**	**<=5**	**User-Defined**
06/16/2015 11:55	2.93 NTU	<=5	User-Defined
06/22/2015 11:41	2.71 NTU	<=5	User-Defined
06/30/2015 12:00	4.24 NTU	<=5	User-Defined
07/03/2015 12:50	1.3 NTU	<=5	User-Defined
07/07/2015 13:07	4.35 NTU	<=5	User-Defined
07/14/2015 12:31	2.66 NTU	<=5	User-Defined
07/27/2015 13:14	2.25 NTU	<=5	User-Defined
08/03/2015 12:45	2.49 NTU	<=5	User-Defined
08/11/2015 12:41	3.01 NTU	<=5	User-Defined
08/18/2015 12:30	2.91 NTU	<=5	User-Defined
08/25/2015 11:55	2.59 NTU	<=5	User-Defined
09/08/2015 13:13	4.48 NTU	<=5	User-Defined
*** 09/15/2015 11:55**	**33 NTU**	**<=5**	**User-Defined**
09/29/2015 12:33	2.56 NTU	<=5	User-Defined

Turbidity		**Criteria**	
10/06/2015 13:04	1.67 NTU	<=5	User-Defined
10/13/2015 12:40	0.77 NTU	<=5	User-Defined
10/19/2015 12:34	0.65 NTU	<=5	User-Defined
11/03/2015 12:05	3.46 NTU	<=5	User-Defined
11/11/2015 12:42	3.61 NTU	<=5	User-Defined
11/17/2015 09:27	3.70 NTU	<=5	User-Defined
11/24/2015 12:40	3.52 NTU	<=5	User-Defined
12/08/2015 09:43	2.68 NTU	<=5	User-Defined
12/15/2015 11:50	2.72 NTU	<=5	User-Defined
12/22/2015 09:34	2.52 NTU	<=5	User-Defined
12/29/2015 11:08	2.26 NTU	<=5	User-Defined

# samples:	53	**min:**	0.65 NTU
# detects:	53	**max:**	202 NTU
# non-detects:	0	**avg:**	7.977 NTU (based on 53 numerical results)
# of Exceedences:	9	**95th percentile:**	21.450 NTU

Facility: Reservoir
Sampling Point: 01 Postill Pump Station (Cl2 Analyzer) (39-7-EP, 287C4)

Chlorine (free)		**Criteria**	
01/06/2015 11:46	1.36 mg/L	>=0.05	WaterTrax Suggested
01/09/2015 11:00	1.50 mg/L	>=0.05	WaterTrax Suggested
01/13/2015 11:31	1.38 mg/L	>=0.05	WaterTrax Suggested
01/15/2015 11:45	1.31 mg/L	>=0.05	WaterTrax Suggested
01/20/2015 11:06	1.29 mg/L	>=0.05	WaterTrax Suggested
01/22/2015 11:00	1.29 mg/L	>=0.05	WaterTrax Suggested
02/02/2015 13:15	1.08 mg/L	>=0.05	WaterTrax Suggested
02/03/2015 11:59	1.15 mg/L	>=0.05	WaterTrax Suggested
02/04/2015 13:05	1.11 mg/L	>=0.05	WaterTrax Suggested
02/05/2015 12:00	1.24 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
02/06/2015 10:30	1.16 mg/L	>=0.05	WaterTrax Suggested
02/12/2015 09:00	1.06 mg/L	>=0.05	WaterTrax Suggested
02/13/2015 12:45	1.38 mg/L	>=0.05	WaterTrax Suggested
02/16/2015 12:38	1.23 mg/L	>=0.05	WaterTrax Suggested
02/18/2015 12:30	1.10 mg/L	>=0.05	WaterTrax Suggested
02/23/2015 12:45	1.05 mg/L	>=0.05	WaterTrax Suggested
02/24/2015 11:25	1.08 mg/L	>=0.05	WaterTrax Suggested
03/03/2015 11:27	1.13 mg/L	>=0.05	WaterTrax Suggested
03/10/2015 12:33	1.01 mg/L	>=0.05	WaterTrax Suggested
03/16/2015 13:05	1.24 mg/L	>=0.05	WaterTrax Suggested
03/24/2015 11:42	1.17 mg/L	>=0.05	WaterTrax Suggested
03/31/2015 11:26	1.35 mg/L	>=0.05	WaterTrax Suggested
04/07/2015 13:15	1.01 mg/L	>=0.05	WaterTrax Suggested
04/14/2015 12:41	1.42 mg/L	>=0.05	WaterTrax Suggested
04/21/2015 11:27	4.15 mg/L	>=0.05	WaterTrax Suggested
04/27/2015 11:50	6.3 mg/L	>=0.05	WaterTrax Suggested
05/05/2015 12:30	2.46 mg/L	>=0.05	WaterTrax Suggested
05/12/2015 11:34	2.86 mg/L	>=0.05	WaterTrax Suggested
05/19/2015 12:30	3.30 mg/L	>=0.05	WaterTrax Suggested
05/26/2015 11:44	1.45 mg/L	>=0.05	WaterTrax Suggested
06/02/2015 11:30	2.57 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
06/09/2015 11:10	6.9 mg/L	>=0.05	WaterTrax Suggested
06/16/2015 11:41	2.76 mg/L	>=0.05	WaterTrax Suggested
06/22/2015 11:10	2.79 mg/L	>=0.05	WaterTrax Suggested
06/30/2015 11:22	1.59 mg/L	>=0.05	WaterTrax Suggested
07/07/2015 12:35	2.64 mg/L	>=0.05	WaterTrax Suggested
07/14/2015 11:47	2.67 mg/L	>=0.05	WaterTrax Suggested
07/21/2015 11:09	2.92 mg/L	>=0.05	WaterTrax Suggested
07/27/2015 12:45	2.87 mg/L	>=0.05	WaterTrax Suggested
08/03/2015 11:56	2.19 mg/L	>=0.05	WaterTrax Suggested
08/11/2015 11:50	2.35 mg/L	>=0.05	WaterTrax Suggested
08/18/2015 11:21	2.95 mg/L	>=0.05	WaterTrax Suggested
08/25/2015 11:22	2.26 mg/L	>=0.05	WaterTrax Suggested
09/01/2015 12:17	2.03 mg/L	>=0.05	WaterTrax Suggested
09/08/2015 12:42	5.8 mg/L	>=0.05	WaterTrax Suggested
09/15/2015 11:32	2.49 mg/L	>=0.05	WaterTrax Suggested
09/21/2015 12:40	2.87 mg/L	>=0.05	WaterTrax Suggested
09/29/2015 11:41	3.60 mg/L	>=0.05	WaterTrax Suggested
10/06/2015 12:35	1.98 mg/L	>=0.05	WaterTrax Suggested
10/13/2015 11:57	1.60 mg/L	>=0.05	WaterTrax Suggested
10/19/2015 11:44	2.18 mg/L	>=0.05	WaterTrax Suggested
11/03/2015 11:30	1.18 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
11/11/2015 11:41	1.14 mg/L	>=0.05	WaterTrax Suggested
11/17/2015 08:48	1.28 mg/L	>=0.05	WaterTrax Suggested
11/24/2015 11:52	1.57 mg/L	>=0.05	WaterTrax Suggested
12/08/2015 08:59	1.06 mg/L	>=0.05	WaterTrax Suggested
12/15/2015 11:26	1.05 mg/L	>=0.05	WaterTrax Suggested
12/22/2015 09:09	1.08 mg/L	>=0.05	WaterTrax Suggested
12/29/2015 10:42	1.30 mg/L	>=0.05	WaterTrax Suggested

# samples:	59	**min:**	1.01 mg/L
# detects:	59	**max:**	6.9 mg/L
# non-detects:	0	**avg:**	2.022 mg/L (based on 59 numerical results)
# of Exceedences:	0		

Color (apparent)		Criteria	
01/06/2015 11:46	9 ACU	<=35	User-Defined
01/13/2015 11:31	4 ACU	<=35	User-Defined
01/20/2015 11:06	9 ACU	<=35	User-Defined
02/03/2015 11:59	6 ACU	<=35	User-Defined
02/16/2015 12:38	9 ACU	<=35	User-Defined
02/24/2015 11:25	6 ACU	<=35	User-Defined
03/03/2015 11:27	11 ACU	<=35	User-Defined
03/10/2015 12:33	3 ACU	<=35	User-Defined
03/16/2015 13:05	7 ACU	<=35	User-Defined
03/24/2015 11:42	6 ACU	<=35	User-Defined
03/31/2015 11:26	5 ACU	<=35	User-Defined
04/07/2015 13:15	5 ACU	<=35	User-Defined
04/14/2015 12:41	6 ACU	<=35	User-Defined
*** 04/21/2015 11:27**	**105 ACU**	**<=35**	**User-Defined**
*** 04/27/2015 11:50**	**83 ACU**	**<=35**	**User-Defined**
*** 05/05/2015 12:30**	**98 ACU**	**<=35**	**User-Defined**
*** 05/12/2015 11:34**	**75 ACU**	**<=35**	**User-Defined**

WaterTrax

Color (apparent)		Criteria	
*** 05/19/2015 12:30**	**88 ACU**	**<=35**	**User-Defined**
*** 05/26/2015 11:44**	**72 ACU**	**<=35**	**User-Defined**
*** 06/02/2015 11:30**	**61 ACU**	**<=35**	**User-Defined**
*** 06/09/2015 11:10**	**65 ACU**	**<=35**	**User-Defined**
*** 06/16/2015 11:41**	**59 ACU**	**<=35**	**User-Defined**
*** 06/22/2015 11:10**	**64 ACU**	**<=35**	**User-Defined**
*** 07/07/2015 12:35**	**68 ACU**	**<=35**	**User-Defined**
07/14/2015 11:47	7 ACU	<=35	User-Defined
*** 07/21/2015 11:09**	**70 ACU**	**<=35**	**User-Defined**
*** 07/27/2015 12:45**	**61 ACU**	**<=35**	**User-Defined**
*** 08/03/2015 11:56**	**60 ACU**	**<=35**	**User-Defined**
*** 08/11/2015 11:50**	**66 ACU**	**<=35**	**User-Defined**
*** 08/18/2015 11:21**	**50 ACU**	**<=35**	**User-Defined**
*** 08/25/2015 11:22**	**56 ACU**	**<=35**	**User-Defined**
*** 09/08/2015 12:42**	**55 ACU**	**<=35**	**User-Defined**
*** 09/15/2015 11:32**	**53 ACU**	**<=35**	**User-Defined**
*** 09/29/2015 11:41**	**50 ACU**	**<=35**	**User-Defined**
10/06/2015 12:35	33 ACU	<=35	User-Defined
10/13/2015 11:57	35 ACU	<=35	User-Defined
10/19/2015 11:44	18 ACU	<=35	User-Defined
11/11/2015 11:41	20 ACU	<=35	User-Defined
11/17/2015 08:48	2 ACU	<=35	User-Defined
11/24/2015 11:52	22 ACU	<=35	User-Defined
12/08/2015 08:59	13 ACU	<=35	User-Defined
12/15/2015 11:26	10 ACU	<=35	User-Defined
12/22/2015 09:09	15 ACU	<=35	User-Defined

# samples:	43	**min:**	2 ACU
# detects:	43	**max:**	105 ACU
# non-detects:	0	**avg:**	37.674 ACU (based on 43 numerical results)
# of Exceedences:	20		

Escherichia coli / E. coli (counts)		**Criteria**	
*** 07/03/2015 08:50**	**74 counts/100mL**	**<=0, P**	**Microbiological Standard**

# samples:	1	**min:**	74 counts/100mL
# detects:	1	**max:**	74 counts/100mL
# non-detects:	0	**Geometric Mean:**	74.000 counts/100mL (based on 1 numerical results)
# of Exceedences:	1		

Total Coliforms (counts)		**Criteria**	
*** 07/03/2015 08:50**	**> 430 counts/100mL**	**<=10**	**User-Defined**

# samples:	1	**min:**	> 430 counts/100mL
# detects:	1	**max:**	> 430 counts/100mL
# non-detects:	0	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	1		

Turbidity		**Criteria**	
01/06/2015 11:46	0.49 NTU	<=5	User-Defined
01/13/2015 11:31	0.54 NTU	<=5	User-Defined
01/20/2015 11:06	0.33 NTU	<=5	User-Defined
02/03/2015 11:59	0.25 NTU	<=5	User-Defined
02/16/2015 12:38	0.41 NTU	<=5	User-Defined
02/24/2015 11:25	0.37 NTU	<=5	User-Defined
03/03/2015 11:27	0.52 NTU	<=5	User-Defined
03/10/2015 12:33	0.48 NTU	<=5	User-Defined
03/16/2015 13:05	0.47 NTU	<=5	User-Defined
03/24/2015 11:42	0.52 NTU	<=5	User-Defined
03/31/2015 11:26	0.35 NTU	<=5	User-Defined
04/07/2015 13:15	0.39 NTU	<=5	User-Defined
04/14/2015 12:41	0.28 NTU	<=5	User-Defined
04/21/2015 11:27	4.32 NTU	<=5	User-Defined
04/27/2015 11:50	4.05 NTU	<=5	User-Defined
05/05/2015 12:30	3.70 NTU	<=5	User-Defined
05/12/2015 11:34	3.38 NTU	<=5	User-Defined

Turbidity		**Criteria**	
05/19/2015 12:30	4.02 NTU	<=5	User-Defined
05/26/2015 11:44	3.01 NTU	<=5	User-Defined
06/02/2015 11:30	2.71 NTU	<=5	User-Defined
06/09/2015 11:10	4.60 NTU	<=5	User-Defined
06/16/2015 11:41	3.45 NTU	<=5	User-Defined
06/22/2015 11:10	2.84 NTU	<=5	User-Defined
07/07/2015 12:35	3.32 NTU	<=5	User-Defined
07/14/2015 11:47	3.40 NTU	<=5	User-Defined
07/21/2015 11:09	3.13 NTU	<=5	User-Defined
07/27/2015 12:45	2.73 NTU	<=5	User-Defined
08/03/2015 11:56	2.92 NTU	<=5	User-Defined
08/11/2015 11:50	3.77 NTU	<=5	User-Defined
08/18/2015 11:21	3.99 NTU	<=5	User-Defined
08/25/2015 11:22	2.74 NTU	<=5	User-Defined
09/08/2015 12:42	2.97 NTU	<=5	User-Defined
09/15/2015 11:32	2.39 NTU	<=5	User-Defined
09/29/2015 11:41	2.46 NTU	<=5	User-Defined
10/06/2015 12:35	1.70 NTU	<=5	User-Defined
10/13/2015 11:57	0.83 NTU	<=5	User-Defined
10/19/2015 11:44	0.78 NTU	<=5	User-Defined
11/03/2015 11:30	0.37 NTU	<=5	User-Defined
11/11/2015 11:41	0.51 NTU	<=5	User-Defined
11/17/2015 08:48	0.20 NTU	<=5	User-Defined
11/24/2015 11:52	0.30 NTU	<=5	User-Defined
12/08/2015 08:59	0.31 NTU	<=5	User-Defined
12/15/2015 11:26	0.24 NTU	<=5	User-Defined
12/22/2015 09:09	0.21 NTU	<=5	User-Defined

# samples:	44	**min:**	0.20 NTU
# detects:	44	**max:**	4.60 NTU
# non-detects:	0	**avg:**	1.835 NTU (based on 44 numerical results)
# of Exceedences:	0	**95th percentile:**	4.253 NTU

Facility: Test Stations
Sampling Point: 02 Rittich Road Test Station (21-1-MD, 3353)

Chlorine (free)		**Criteria**	
01/06/2015 11:25	0.96 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
01/07/2015 13:25	1.19 mg/L	>=0.05	WaterTrax Suggested
01/09/2015 10:40	1.07 mg/L	>=0.05	WaterTrax Suggested
01/13/2015 11:05	0.97 mg/L	>=0.05	WaterTrax Suggested
01/15/2015 11:15	1.02 mg/L	>=0.05	WaterTrax Suggested
01/19/2015 10:40	1.05 mg/L	>=0.05	WaterTrax Suggested
01/20/2015 10:50	1.05 mg/L	>=0.05	WaterTrax Suggested
01/21/2015 10:45	1.19 mg/L	>=0.05	WaterTrax Suggested
01/22/2015 10:45	1.08 mg/L	>=0.05	WaterTrax Suggested
02/02/2015 12:10	1.30 mg/L	>=0.05	WaterTrax Suggested
02/03/2015 11:36	1.08 mg/L	>=0.05	WaterTrax Suggested
02/04/2015 12:40	1.11 mg/L	>=0.05	WaterTrax Suggested
02/05/2015 11:45	1.41 mg/L	>=0.05	WaterTrax Suggested
02/06/2015 10:07	1.07 mg/L	>=0.05	WaterTrax Suggested
02/11/2015 11:00	1.19 mg/L	>=0.05	WaterTrax Suggested
02/12/2015 08:30	1.06 mg/L	>=0.05	WaterTrax Suggested
02/13/2015 13:30	1.07 mg/L	>=0.05	WaterTrax Suggested
02/16/2015 11:38	1.03 mg/L	>=0.05	WaterTrax Suggested
02/18/2015 11:50	1.08 mg/L	>=0.05	WaterTrax Suggested
02/23/2015 11:40	1.34 mg/L	>=0.05	WaterTrax Suggested
02/24/2015 12:55	1.01 mg/L	>=0.05	WaterTrax Suggested
03/03/2015 11:09	0.98 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
03/10/2015 11:49	1.09 mg/L	>=0.05	WaterTrax Suggested
03/16/2015 11:30	1.07 mg/L	>=0.05	WaterTrax Suggested
03/24/2015 11:22	1.11 mg/L	>=0.05	WaterTrax Suggested
03/31/2015 11:05	1.14 mg/L	>=0.05	WaterTrax Suggested
04/07/2015 12:50	0.95 mg/L	>=0.05	WaterTrax Suggested
04/14/2015 11:52	1.12 mg/L	>=0.05	WaterTrax Suggested
04/21/2015 11:09	2.34 mg/L	>=0.05	WaterTrax Suggested
04/27/2015 11:26	2.11 mg/L	>=0.05	WaterTrax Suggested
05/12/2015 11:18	2.63 mg/L	>=0.05	WaterTrax Suggested
05/19/2015 11:42	1.86 mg/L	>=0.05	WaterTrax Suggested
05/26/2015 11:11	0.62 mg/L	>=0.05	WaterTrax Suggested
06/02/2015 11:15	1.95 mg/L	>=0.05	WaterTrax Suggested
06/09/2015 10:52	4.33 mg/L	>=0.05	WaterTrax Suggested
06/16/2015 11:22	2.47 mg/L	>=0.05	WaterTrax Suggested
06/22/2015 10:56	2.34 mg/L	>=0.05	WaterTrax Suggested
06/30/2015 11:02	0.96 mg/L	>=0.05	WaterTrax Suggested
07/07/2015 11:48	2.19 mg/L	>=0.05	WaterTrax Suggested
07/14/2015 11:26	1.98 mg/L	>=0.05	WaterTrax Suggested
07/27/2015 11:53	2.50 mg/L	>=0.05	WaterTrax Suggested
08/03/2015 11:30	2.19 mg/L	>=0.05	WaterTrax Suggested
08/11/2015 11:35	2.18 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
08/18/2015 11:10	2.50 mg/L	>=0.05	WaterTrax Suggested
08/25/2015 11:05	1.89 mg/L	>=0.05	WaterTrax Suggested
09/01/2015 11:53	0.79 mg/L	>=0.05	WaterTrax Suggested
09/08/2015 11:44	4.40 mg/L	>=0.05	WaterTrax Suggested
09/15/2015 11:13	1.82 mg/L	>=0.05	WaterTrax Suggested
09/21/2015 11:53	1.81 mg/L	>=0.05	WaterTrax Suggested
09/29/2015 11:23	2.65 mg/L	>=0.05	WaterTrax Suggested
10/13/2015 11:43	1.84 mg/L	>=0.05	WaterTrax Suggested
10/19/2015 11:27	2.24 mg/L	>=0.05	WaterTrax Suggested
11/03/2015 11:16	1.31 mg/L	>=0.05	WaterTrax Suggested
11/11/2015 11:13	1.11 mg/L	>=0.05	WaterTrax Suggested
11/17/2015 08:27	1.41 mg/L	>=0.05	WaterTrax Suggested
11/24/2015 11:29	1.14 mg/L	>=0.05	WaterTrax Suggested
12/15/2015 09:46	0.83 mg/L	>=0.05	WaterTrax Suggested
12/22/2015 08:46	1.17 mg/L	>=0.05	WaterTrax Suggested
12/29/2015 10:21	0.90 mg/L	>=0.05	WaterTrax Suggested

# samples:	59	**min:**	0.62 mg/L
# detects:	59	**max:**	4.40 mg/L
# non-detects:	0	**avg:**	1.547 mg/L (based on 59 numerical results)
# of Exceedences:	0		

Color (apparent)		**Criteria**	
01/06/2015 11:25	15 ACU	<=35	User-Defined
01/13/2015 11:05	14 ACU	<=35	User-Defined
01/20/2015 10:50	7 ACU	<=35	User-Defined

Color (apparent)		**Criteria**	
02/03/2015 11:36	3 ACU	<=35	User-Defined
02/16/2015 11:38	5 ACU	<=35	User-Defined
02/24/2015 12:55	12 ACU	<=35	User-Defined
03/03/2015 11:09	15 ACU	<=35	User-Defined
*** 03/10/2015 11:49**	**66 ACU**	**<=35**	**User-Defined**
03/16/2015 11:30	3 ACU	<=35	User-Defined
03/24/2015 11:22	7 ACU	<=35	User-Defined
03/31/2015 11:05	8 ACU	<=35	User-Defined
04/07/2015 12:50	14 ACU	<=35	User-Defined
04/14/2015 11:52	9 ACU	<=35	User-Defined
*** 04/21/2015 11:09**	**91 ACU**	**<=35**	**User-Defined**
*** 04/27/2015 11:26**	**104 ACU**	**<=35**	**User-Defined**
*** 05/12/2015 11:18**	**79 ACU**	**<=35**	**User-Defined**
05/19/2015 11:42	35 ACU	<=35	User-Defined
*** 05/26/2015 11:11**	**64 ACU**	**<=35**	**User-Defined**
*** 06/02/2015 11:15**	**64 ACU**	**<=35**	**User-Defined**
*** 06/09/2015 10:52**	**68 ACU**	**<=35**	**User-Defined**
*** 06/16/2015 11:22**	**65 ACU**	**<=35**	**User-Defined**
*** 06/22/2015 10:56**	**51 ACU**	**<=35**	**User-Defined**
*** 07/07/2015 11:48**	**69 ACU**	**<=35**	**User-Defined**
*** 07/14/2015 11:26**	**69 ACU**	**<=35**	**User-Defined**
*** 07/21/2015 11:01**	**71 ACU**	**<=35**	**User-Defined**
*** 07/27/2015 11:53**	**49 ACU**	**<=35**	**User-Defined**
*** 08/03/2015 11:30**	**60 ACU**	**<=35**	**User-Defined**
*** 08/11/2015 11:35**	**74 ACU**	**<=35**	**User-Defined**
*** 08/18/2015 11:10**	**66 ACU**	**<=35**	**User-Defined**

Color (apparent)		Criteria	
*** 08/25/2015 11:05**	**62 ACU**	**<=35**	**User-Defined**
*** 09/08/2015 11:44**	**47 ACU**	**<=35**	**User-Defined**
*** 09/15/2015 11:13**	**49 ACU**	**<=35**	**User-Defined**
*** 09/29/2015 11:23**	**45 ACU**	**<=35**	**User-Defined**
10/19/2015 11:27	18 ACU	<=35	User-Defined
11/11/2015 11:13	17 ACU	<=35	User-Defined
11/17/2015 08:27	7 ACU	<=35	User-Defined
11/24/2015 11:29	35 ACU	<=35	User-Defined
12/15/2015 09:46	18 ACU	<=35	User-Defined
12/22/2015 08:46	5 ACU	<=35	User-Defined

# samples:	39	**min:**	3 ACU
# detects:	39	**max:**	104 ACU
# non-detects:	0	**avg:**	40.000 ACU (based on 39 numerical results)
# of Exceedences:	20		

Escherichia coli / E. coli (counts)		Criteria	
01/13/2015 11:05	< 1 counts/100mL	<=0, P	Microbiological Standard
01/27/2015 11:50	ND counts/100mL	<=0, P	Microbiological Standard
02/03/2015 11:36	< 1 counts/100mL	<=0, P	Microbiological Standard
02/16/2015 11:38	< 1 counts/100mL	<=0, P	Microbiological Standard
03/03/2015 11:10	< 1 counts/100mL	<=0, P	Microbiological Standard
03/16/2015 11:30	< 1 counts/100mL	<=0, P	Microbiological Standard
03/31/2015 11:05	< 1 counts/100mL	<=0, P	Microbiological Standard
04/14/2015 11:52	< 1 counts/100mL	<=0, P	Microbiological Standard
04/27/2015 11:26	< 1 counts/100mL	<=0, P	Microbiological Standard
05/19/2015 11:42	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		Criteria	
06/02/2015 11:16	< 1 counts/100mL	<=0, P	Microbiological Standard
06/16/2015 11:22	< 1 counts/100mL	<=0, P	Microbiological Standard
06/30/2015 11:02	< 1 counts/100mL	<=0, P	Microbiological Standard
07/07/2015 11:50	< 1 counts/100mL	<=0, P	Microbiological Standard
07/10/2015 13:33	< 1 counts/100mL	<=0, P	Microbiological Standard
07/14/2015 11:26	< 1 counts/100mL	<=0, P	Microbiological Standard
07/17/2015 11:10	< 1 counts/100mL	<=0, P	Microbiological Standard
07/24/2015 14:01	< 1 counts/100mL	<=0, P	Microbiological Standard
07/27/2015 11:53	< 1 counts/100mL	<=0, P	Microbiological Standard
08/04/2015 11:39	< 1 counts/100mL	<=0, P	Microbiological Standard
08/18/2015 11:10	< 1 counts/100mL	<=0, P	Microbiological Standard
09/01/2015 11:51	< 1 counts/100mL	<=0, P	Microbiological Standard
09/15/2015 11:13	< 1 counts/100mL	<=0, P	Microbiological Standard
09/29/2015 11:23	< 1 counts/100mL	<=0, P	Microbiological Standard
10/13/2015 11:43	< 1 counts/100mL	<=0, P	Microbiological Standard
10/27/2015 11:20	< 1 counts/100mL	<=0, P	Microbiological Standard
11/10/2015 11:14	< 1 counts/100mL	<=0, P	Microbiological Standard
11/24/2015 11:29	< 1 counts/100mL	<=0, P	Microbiological Standard
12/08/2015 08:38	< 1 counts/100mL	<=0, P	Microbiological Standard
12/22/2015 08:46	< 1 counts/100mL	<=0, P	Microbiological Standard
# samples:	30	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL

WaterTrax

# non-detects:	30	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Total Coliforms (counts)		**Criteria**	
01/13/2015 11:05	< 1 counts/100mL	<=10	User-Defined
01/27/2015 11:50	ND counts/100mL	<=10	User-Defined
02/03/2015 11:36	< 1 counts/100mL	<=10	User-Defined
02/16/2015 11:38	< 1 counts/100mL	<=10	User-Defined
03/03/2015 11:10	< 1 counts/100mL	<=10	User-Defined
03/16/2015 11:30	< 1 counts/100mL	<=10	User-Defined
03/31/2015 11:05	< 1 counts/100mL	<=10	User-Defined
04/14/2015 11:52	< 1 counts/100mL	<=10	User-Defined
04/27/2015 11:26	< 1 counts/100mL	<=10	User-Defined
05/19/2015 11:42	< 1 counts/100mL	<=10	User-Defined
06/02/2015 11:16	< 1 counts/100mL	<=10	User-Defined
06/16/2015 11:22	< 1 counts/100mL	<=10	User-Defined
06/30/2015 11:02	< 1 counts/100mL	<=10	User-Defined
07/07/2015 11:50	< 1 counts/100mL	<=10	User-Defined
07/10/2015 13:33	< 1 counts/100mL	<=10	User-Defined
07/14/2015 11:26	< 1 counts/100mL	<=10	User-Defined
07/17/2015 11:10	< 1 counts/100mL	<=10	User-Defined
07/24/2015 14:01	< 1 counts/100mL	<=10	User-Defined
07/27/2015 11:53	< 1 counts/100mL	<=10	User-Defined
08/04/2015 11:39	< 1 counts/100mL	<=10	User-Defined
08/18/2015 11:10	< 1 counts/100mL	<=10	User-Defined
09/01/2015 11:51	< 1 counts/100mL	<=10	User-Defined
09/15/2015 11:13	< 1 counts/100mL	<=10	User-Defined
09/29/2015 11:23	< 1 counts/100mL	<=10	User-Defined
10/13/2015 11:43	< 1 counts/100mL	<=10	User-Defined
10/27/2015 11:20	< 1 counts/100mL	<=10	User-Defined
11/10/2015 11:14	< 1 counts/100mL	<=10	User-Defined
11/24/2015 11:29	< 1 counts/100mL	<=10	User-Defined
12/08/2015 08:38	< 1 counts/100mL	<=10	User-Defined
12/22/2015 08:46	< 1 counts/100mL	<=10	User-Defined

# samples:	30	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	30	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Turbidity		Criteria	
01/06/2015 11:25	0.33 NTU	<=5	User-Defined
01/13/2015 11:05	0.32 NTU	<=5	User-Defined
01/20/2015 10:50	0.34 NTU	<=5	User-Defined
02/03/2015 11:36	0.37 NTU	<=5	User-Defined
02/16/2015 11:38	0.35 NTU	<=5	User-Defined
02/24/2015 12:55	0.35 NTU	<=5	User-Defined
03/03/2015 11:09	0.45 NTU	<=5	User-Defined
03/10/2015 11:49	0.99 NTU	<=5	User-Defined
03/16/2015 11:30	0.45 NTU	<=5	User-Defined
03/24/2015 11:22	0.59 NTU	<=5	User-Defined
03/31/2015 11:05	0.40 NTU	<=5	User-Defined
04/07/2015 12:50	0.35 NTU	<=5	User-Defined
04/14/2015 11:52	0.36 NTU	<=5	User-Defined
04/21/2015 11:09	3.82 NTU	<=5	User-Defined
04/27/2015 11:26	4.48 NTU	<=5	User-Defined
05/12/2015 11:18	3.78 NTU	<=5	User-Defined
05/19/2015 11:42	1.91 NTU	<=5	User-Defined
05/26/2015 11:11	2.41 NTU	<=5	User-Defined
06/02/2015 11:15	2.39 NTU	<=5	User-Defined
06/09/2015 10:52	3.72 NTU	<=5	User-Defined
06/16/2015 11:22	3.56 NTU	<=5	User-Defined
06/22/2015 10:56	2.83 NTU	<=5	User-Defined
07/03/2015 11:06	1.6 NTU	<=5	User-Defined
07/07/2015 11:48	3.68 NTU	<=5	User-Defined
07/14/2015 11:26	3.51 NTU	<=5	User-Defined
07/21/2015 11:01	3.57 NTU	<=5	User-Defined
07/27/2015 11:53	2.23 NTU	<=5	User-Defined
08/03/2015 11:30	2.92 NTU	<=5	User-Defined
08/11/2015 11:35	3.48 NTU	<=5	User-Defined
08/18/2015 11:10	3.19 NTU	<=5	User-Defined
08/25/2015 11:05	2.40 NTU	<=5	User-Defined
09/08/2015 11:44	2.10 NTU	<=5	User-Defined
09/15/2015 11:13	1.84 NTU	<=5	User-Defined
09/29/2015 11:23	1.77 NTU	<=5	User-Defined
10/19/2015 11:27	0.78 NTU	<=5	User-Defined
11/03/2015 11:16	0.36 NTU	<=5	User-Defined
11/11/2015 11:13	0.30 NTU	<=5	User-Defined
11/17/2015 08:27	0.25 NTU	<=5	User-Defined
11/24/2015 11:29	0.34 NTU	<=5	User-Defined

Turbidity		Criteria	
12/15/2015 09:46	0.23 NTU	<=5	User-Defined
12/22/2015 08:46	0.22 NTU	<=5	User-Defined

# samples:	41	**min:**	0.22 NTU
# detects:	41	**max:**	4.48 NTU
# non-detects:	0	**avg:**	1.691 NTU (based on 41 numerical results)
# of Exceedences:	0	**95th percentile:**	3.816 NTU

Facility: Test Stations
Sampling Point: 05 Aiport Well Test Station (21-3-MD, 3355)

Chlorine (free)		Criteria	
01/06/2015 12:53	1.48 mg/L	>=0.05	WaterTrax Suggested
01/13/2015 12:33	1.76 mg/L	>=0.05	WaterTrax Suggested
01/20/2015 11:38	0.89 mg/L	>=0.05	WaterTrax Suggested
02/03/2015 12:58	1.43 mg/L	>=0.05	WaterTrax Suggested
02/16/2015 13:10	0.60 mg/L	>=0.05	WaterTrax Suggested
02/24/2015 13:24	1.40 mg/L	>=0.05	WaterTrax Suggested
03/03/2015 12:32	1.52 mg/L	>=0.05	WaterTrax Suggested
03/10/2015 12:58	1.67 mg/L	>=0.05	WaterTrax Suggested
03/16/2015 11:56	1.43 mg/L	>=0.05	WaterTrax Suggested
03/24/2015 12:54	1.51 mg/L	>=0.05	WaterTrax Suggested
03/31/2015 12:36	1.61 mg/L	>=0.05	WaterTrax Suggested
04/07/2015 13:40	1.44 mg/L	>=0.05	WaterTrax Suggested
04/14/2015 13:11	1.50 mg/L	>=0.05	WaterTrax Suggested
04/21/2015 12:40	1.52 mg/L	>=0.05	WaterTrax Suggested
04/27/2015 13:50	1.74 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
05/05/2015 13:11	1.58 mg/L	>=0.05	WaterTrax Suggested
05/12/2015 12:49	1.71 mg/L	>=0.05	WaterTrax Suggested
05/19/2015 13:05	1.95 mg/L	>=0.05	WaterTrax Suggested
05/26/2015 12:50	1.87 mg/L	>=0.05	WaterTrax Suggested
06/02/2015 12:56	1.74 mg/L	>=0.05	WaterTrax Suggested
06/09/2015 12:50	2.10 mg/L	>=0.05	WaterTrax Suggested
06/16/2015 12:41	1.77 mg/L	>=0.05	WaterTrax Suggested
06/22/2015 11:51	1.90 mg/L	>=0.05	WaterTrax Suggested
06/30/2015 13:05	1.57 mg/L	>=0.05	WaterTrax Suggested
07/07/2015 13:32	1.46 mg/L	>=0.05	WaterTrax Suggested
07/14/2015 12:58	1.60 mg/L	>=0.05	WaterTrax Suggested
07/21/2015 14:02	1.76 mg/L	>=0.05	WaterTrax Suggested
07/27/2015 13:36	1.26 mg/L	>=0.05	WaterTrax Suggested
08/03/2015 12:59	2.10 mg/L	>=0.05	WaterTrax Suggested
08/11/2015 13:08	1.57 mg/L	>=0.05	WaterTrax Suggested
08/18/2015 13:04	1.98 mg/L	>=0.05	WaterTrax Suggested
08/25/2015 12:46	1.59 mg/L	>=0.05	WaterTrax Suggested
09/08/2015 13:51	1.87 mg/L	>=0.05	WaterTrax Suggested
09/15/2015 15:00	1.74 mg/L	>=0.05	WaterTrax Suggested
09/21/2015 13:32	1.87 mg/L	>=0.05	WaterTrax Suggested
09/29/2015 12:59	1.66 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
10/06/2015 13:26	1.97 mg/L	>=0.05	WaterTrax Suggested
10/13/2015 12:54	2.34 mg/L	>=0.05	WaterTrax Suggested
10/19/2015 12:50	2.68 mg/L	>=0.05	WaterTrax Suggested
11/03/2015 12:25	1.84 mg/L	>=0.05	WaterTrax Suggested
11/11/2015 13:05	1.37 mg/L	>=0.05	WaterTrax Suggested
11/17/2015 09:50	1.63 mg/L	>=0.05	WaterTrax Suggested
11/24/2015 13:08	1.42 mg/L	>=0.05	WaterTrax Suggested
12/08/2015 09:59	1.45 mg/L	>=0.05	WaterTrax Suggested
12/15/2015 09:34	1.41 mg/L	>=0.05	WaterTrax Suggested
12/22/2015 09:49	1.21 mg/L	>=0.05	WaterTrax Suggested
12/29/2015 11:24	1.82 mg/L	>=0.05	WaterTrax Suggested

# samples:	47	**min:**	0.60 mg/L
# detects:	47	**max:**	2.68 mg/L
# non-detects:	0	**avg:**	1.644 mg/L (based on 47 numerical results)
# of Exceedences:	0		

Color (apparent)		Criteria	
01/06/2015 12:53	8 ACU	<=35	User-Defined
01/13/2015 12:33	6 ACU	<=35	User-Defined
01/20/2015 11:38	2 ACU	<=35	User-Defined
02/03/2015 12:58	10 ACU	<=35	User-Defined
02/16/2015 13:10	11 ACU	<=35	User-Defined
02/24/2015 13:24	9 ACU	<=35	User-Defined
03/03/2015 12:32	10 ACU	<=35	User-Defined
03/10/2015 12:58	4 ACU	<=35	User-Defined
03/16/2015 11:56	6 ACU	<=35	User-Defined
03/24/2015 12:54	9 ACU	<=35	User-Defined
03/31/2015 12:36	7 ACU	<=35	User-Defined
04/07/2015 13:40	4 ACU	<=35	User-Defined
04/14/2015 13:11	1 ACU	<=35	User-Defined

Color (apparent)		**Criteria**	
04/21/2015 12:40	12 ACU	<=35	User-Defined
04/27/2015 13:50	16 ACU	<=35	User-Defined
05/05/2015 13:11	19 ACU	<=35	User-Defined
05/12/2015 12:49	10 ACU	<=35	User-Defined
05/19/2015 13:05	14 ACU	<=35	User-Defined
05/26/2015 12:50	18 ACU	<=35	User-Defined
06/02/2015 12:56	12 ACU	<=35	User-Defined
06/09/2015 12:50	20 ACU	<=35	User-Defined
06/16/2015 12:41	17 ACU	<=35	User-Defined
06/22/2015 11:51	14 ACU	<=35	User-Defined
07/07/2015 13:32	5 ACU	<=35	User-Defined
07/14/2015 12:58	11 ACU	<=35	User-Defined
07/21/2015 14:02	22 ACU	<=35	User-Defined
07/27/2015 13:36	8 ACU	<=35	User-Defined
08/03/2015 12:59	2 ACU	<=35	User-Defined
08/11/2015 13:08	11 ACU	<=35	User-Defined
08/18/2015 13:04	13 ACU	<=35	User-Defined
08/25/2015 12:46	32 ACU	<=35	User-Defined
09/08/2015 13:51	13 ACU	<=35	User-Defined
09/15/2015 15:00	13 ACU	<=35	User-Defined
09/29/2015 12:59	6 ACU	<=35	User-Defined
10/06/2015 13:26	18 ACU	<=35	User-Defined
10/13/2015 12:54	17 ACU	<=35	User-Defined
10/19/2015 12:50	15 ACU	<=35	User-Defined
11/11/2015 13:05	11 ACU	<=35	User-Defined
11/17/2015 09:50	0 ACU	<=35	User-Defined
11/24/2015 13:08	18 ACU	<=35	User-Defined
12/08/2015 09:59	10 ACU	<=35	User-Defined
12/15/2015 09:34	5 ACU	<=35	User-Defined
12/22/2015 09:49	16 ACU	<=35	User-Defined

# samples:	43	**min:**	0 ACU
# detects:	43	**max:**	32 ACU
# non-detects:	0	**avg:**	11.279 ACU (based on 43 numerical results)
# of Exceedences:	0		

Escherichia coli / E. coli (counts)		**Criteria**	
01/06/2015 12:53	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		Criteria	
01/20/2015 11:38	< 1 counts/100mL	<=0, P	Microbiological Standard
02/10/2015 12:35	< 1 counts/100mL	<=0, P	Microbiological Standard
02/24/2015 13:24	< 1 counts/100mL	<=0, P	Microbiological Standard
03/10/2015 12:58	< 1 counts/100mL	<=0, P	Microbiological Standard
03/24/2015 12:54	< 1 counts/100mL	<=0, P	Microbiological Standard
04/21/2015 12:40	< 1 counts/100mL	<=0, P	Microbiological Standard
05/12/2015 12:55	< 1 counts/100mL	<=0, P	Microbiological Standard
05/26/2015 12:50	< 1 counts/100mL	<=0, P	Microbiological Standard
06/09/2015 12:50	< 1 counts/100mL	<=0, P	Microbiological Standard
06/22/2015 11:51	< 1 counts/100mL	<=0, P	Microbiological Standard
07/07/2015 13:32	< 1 counts/100mL	<=0, P	Microbiological Standard
07/21/2015 14:02	< 1 counts/100mL	<=0, P	Microbiological Standard
08/25/2015 12:46	< 1 counts/100mL	<=0, P	Microbiological Standard
09/01/2015 13:00	< 1 counts/100mL	<=0, P	Microbiological Standard
09/08/2015 13:51	< 1 counts/100mL	<=0, P	Microbiological Standard
09/21/2015 13:32	< 1 counts/100mL	<=0, P	Microbiological Standard
10/19/2015 12:50	< 1 counts/100mL	<=0, P	Microbiological Standard
11/03/2015 12:25	< 1 counts/100mL	<=0, P	Microbiological Standard
11/17/2015 09:50	< 1 counts/100mL	<=0, P	Microbiological Standard
12/01/2015 09:36	< 1 counts/100mL	<=0, P	Microbiological Standard
12/15/2015 09:34	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		**Criteria**	
12/29/2015 11:20	< 1 counts/100mL	<=0, P	Microbiological Standard

# samples:	23	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	23	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Total Coliforms (counts)		**Criteria**	
01/06/2015 12:53	< 1 counts/100mL	<=10	User-Defined
01/20/2015 11:38	< 1 counts/100mL	<=10	User-Defined
02/10/2015 12:35	< 1 counts/100mL	<=10	User-Defined
02/24/2015 13:24	< 1 counts/100mL	<=10	User-Defined
03/10/2015 12:58	< 1 counts/100mL	<=10	User-Defined
03/24/2015 12:54	< 1 counts/100mL	<=10	User-Defined
04/21/2015 12:40	< 1 counts/100mL	<=10	User-Defined
05/12/2015 12:55	< 1 counts/100mL	<=10	User-Defined
05/26/2015 12:50	< 1 counts/100mL	<=10	User-Defined
06/09/2015 12:50	< 1 counts/100mL	<=10	User-Defined
06/22/2015 11:51	< 1 counts/100mL	<=10	User-Defined
07/07/2015 13:32	< 1 counts/100mL	<=10	User-Defined
07/21/2015 14:02	< 1 counts/100mL	<=10	User-Defined
08/25/2015 12:46	< 1 counts/100mL	<=10	User-Defined
09/01/2015 13:00	< 1 counts/100mL	<=10	User-Defined
09/08/2015 13:51	< 1 counts/100mL	<=10	User-Defined
09/21/2015 13:32	< 1 counts/100mL	<=10	User-Defined
10/19/2015 12:50	< 1 counts/100mL	<=10	User-Defined
11/03/2015 12:25	< 1 counts/100mL	<=10	User-Defined
11/17/2015 09:50	< 1 counts/100mL	<=10	User-Defined
12/01/2015 09:36	< 1 counts/100mL	<=10	User-Defined
12/15/2015 09:34	< 1 counts/100mL	<=10	User-Defined
12/29/2015 11:20	< 1 counts/100mL	<=10	User-Defined

# samples:	23	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	23	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Turbidity		**Criteria**	
01/06/2015 12:53	0.38 NTU	<=5	User-Defined

WaterTrax

Turbidity		**Criteria**	
01/13/2015 12:33	0.34 NTU	<=5	User-Defined
01/20/2015 11:38	0.19 NTU	<=5	User-Defined
02/03/2015 12:58	0.29 NTU	<=5	User-Defined
02/16/2015 13:10	0.75 NTU	<=5	User-Defined
02/24/2015 13:24	0.33 NTU	<=5	User-Defined
03/03/2015 12:32	0.34 NTU	<=5	User-Defined
03/10/2015 12:58	0.34 NTU	<=5	User-Defined
03/16/2015 11:56	0.50 NTU	<=5	User-Defined
03/24/2015 12:54	0.25 NTU	<=5	User-Defined
03/31/2015 12:36	0.29 NTU	<=5	User-Defined
04/07/2015 13:40	0.22 NTU	<=5	User-Defined
04/14/2015 13:11	0.25 NTU	<=5	User-Defined
04/21/2015 12:40	0.24 NTU	<=5	User-Defined
04/27/2015 13:50	0.26 NTU	<=5	User-Defined
05/05/2015 13:11	0.22 NTU	<=5	User-Defined
05/12/2015 12:49	0.21 NTU	<=5	User-Defined
05/19/2015 13:05	0.31 NTU	<=5	User-Defined
05/26/2015 12:50	1.12 NTU	<=5	User-Defined
06/02/2015 12:56	0.78 NTU	<=5	User-Defined
06/09/2015 12:50	0.29 NTU	<=5	User-Defined
06/16/2015 12:41	0.38 NTU	<=5	User-Defined
06/22/2015 11:51	0.26 NTU	<=5	User-Defined
07/07/2015 13:32	0.28 NTU	<=5	User-Defined
07/14/2015 12:58	0.26 NTU	<=5	User-Defined
07/21/2015 14:02	0.52 NTU	<=5	User-Defined
07/27/2015 13:36	0.34 NTU	<=5	User-Defined
08/03/2015 12:59	0.33 NTU	<=5	User-Defined
08/11/2015 13:08	0.32 NTU	<=5	User-Defined
08/18/2015 13:04	0.33 NTU	<=5	User-Defined
08/25/2015 12:46	0.73 NTU	<=5	User-Defined
09/08/2015 13:51	0.33 NTU	<=5	User-Defined
09/15/2015 15:00	0.42 NTU	<=5	User-Defined
09/29/2015 12:59	0.23 NTU	<=5	User-Defined
10/06/2015 13:26	0.47 NTU	<=5	User-Defined
10/13/2015 12:54	0.35 NTU	<=5	User-Defined
10/19/2015 12:50	0.34 NTU	<=5	User-Defined
11/03/2015 12:25	0.33 NTU	<=5	User-Defined
11/11/2015 13:05	0.23 NTU	<=5	User-Defined
11/17/2015 09:50	0.36 NTU	<=5	User-Defined

Turbidity		**Criteria**	
11/24/2015 13:08	0.20 NTU	<=5	User-Defined
12/08/2015 09:59	0.29 NTU	<=5	User-Defined
12/15/2015 09:34	0.46 NTU	<=5	User-Defined
12/22/2015 09:49	0.23 NTU	<=5	User-Defined

# samples:	44	**min:**	0.19 NTU
# detects:	44	**max:**	1.12 NTU
# non-detects:	0	**avg:**	0.361 NTU (based on 44 numerical results)
# of Exceedences:	0	**95th percentile:**	0.773 NTU

Facility: Test Stations
Sampling Point: Dry Valley Rd. T/S (21-6-EP, 28AC8)

Chlorine (free)		**Criteria**	
01/06/2015 13:44	0.87 mg/L	>=0.05	WaterTrax Suggested
01/13/2015 12:52	1.04 mg/L	>=0.05	WaterTrax Suggested
01/20/2015 11:57	0.83 mg/L	>=0.05	WaterTrax Suggested
02/03/2015 13:20	0.62 mg/L	>=0.05	WaterTrax Suggested
02/16/2015 13:33	0.60 mg/L	>=0.05	WaterTrax Suggested
02/24/2015 13:37	0.87 mg/L	>=0.05	WaterTrax Suggested
03/03/2015 13:01	0.65 mg/L	>=0.05	WaterTrax Suggested
03/10/2015 13:16	0.80 mg/L	>=0.05	WaterTrax Suggested
03/16/2015 12:17	0.90 mg/L	>=0.05	WaterTrax Suggested
03/24/2015 13:16	1.75 mg/L	>=0.05	WaterTrax Suggested
04/07/2015 14:15	0.73 mg/L	>=0.05	WaterTrax Suggested
04/14/2015 13:32	1.23 mg/L	>=0.05	WaterTrax Suggested
04/21/2015 13:04	1.21 mg/L	>=0.05	WaterTrax Suggested
04/27/2015 14:14	1.54 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
05/05/2015 13:31	2.02 mg/L	>=0.05	WaterTrax Suggested
05/19/2015 13:27	2.37 mg/L	>=0.05	WaterTrax Suggested
05/26/2015 13:16	2.12 mg/L	>=0.05	WaterTrax Suggested
06/02/2015 13:16	2.13 mg/L	>=0.05	WaterTrax Suggested
06/09/2015 13:09	2.34 mg/L	>=0.05	WaterTrax Suggested
06/16/2015 12:57	2.24 mg/L	>=0.05	WaterTrax Suggested
06/22/2015 12:46	2.15 mg/L	>=0.05	WaterTrax Suggested
06/30/2015 13:22	2.17 mg/L	>=0.05	WaterTrax Suggested
07/07/2015 13:57	1.98 mg/L	>=0.05	WaterTrax Suggested
07/14/2015 13:26	2.45 mg/L	>=0.05	WaterTrax Suggested
07/21/2015 13:57	2.30 mg/L	>=0.05	WaterTrax Suggested
07/27/2015 14:03	1.95 mg/L	>=0.05	WaterTrax Suggested
08/03/2015 13:19	2.46 mg/L	>=0.05	WaterTrax Suggested
08/11/2015 13:33	2.22 mg/L	>=0.05	WaterTrax Suggested
08/18/2015 13:23	2.54 mg/L	>=0.05	WaterTrax Suggested
08/25/2015 13:00	2.65 mg/L	>=0.05	WaterTrax Suggested
09/08/2015 14:08	2.39 mg/L	>=0.05	WaterTrax Suggested
09/15/2015 13:08	1.44 mg/L	>=0.05	WaterTrax Suggested
09/21/2015 14:00	1.57 mg/L	>=0.05	WaterTrax Suggested
09/29/2015 13:19	1.42 mg/L	>=0.05	WaterTrax Suggested
10/06/2015 13:42	1.97 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
10/13/2015 13:13	0.89 mg/L	>=0.05	WaterTrax Suggested
10/19/2015 13:11	0.63 mg/L	>=0.05	WaterTrax Suggested
11/03/2015 12:46	0.65 mg/L	>=0.05	WaterTrax Suggested
11/11/2015 13:29	1.74 mg/L	>=0.05	WaterTrax Suggested
11/17/2015 10:49	0.55 mg/L	>=0.05	WaterTrax Suggested
12/08/2015 10:41	0.78 mg/L	>=0.05	WaterTrax Suggested
12/15/2015 09:02	0.65 mg/L	>=0.05	WaterTrax Suggested
12/22/2015 10:30	0.69 mg/L	>=0.05	WaterTrax Suggested

# samples:	43	**min:**	0.55 mg/L
# detects:	43	**max:**	2.65 mg/L
# non-detects:	0	**avg:**	1.514 mg/L (based on 43 numerical results)
# of Exceedences:	0		

Color (apparent)		Criteria	
01/06/2015 13:44	11 ACU	<=35	User-Defined
01/13/2015 12:52	10 ACU	<=35	User-Defined
01/20/2015 11:57	15 ACU	<=35	User-Defined
02/03/2015 13:20	5 ACU	<=35	User-Defined
02/16/2015 13:33	11 ACU	<=35	User-Defined
02/24/2015 13:37	29 ACU	<=35	User-Defined
03/03/2015 13:01	19 ACU	<=35	User-Defined
03/10/2015 13:16	15 ACU	<=35	User-Defined
03/16/2015 12:17	9 ACU	<=35	User-Defined
03/24/2015 13:16	10 ACU	<=35	User-Defined
04/07/2015 14:15	8 ACU	<=35	User-Defined
04/14/2015 13:32	12 ACU	<=35	User-Defined
04/21/2015 13:04	16 ACU	<=35	User-Defined
04/27/2015 14:14	13 ACU	<=35	User-Defined
05/05/2015 13:31	2 ACU	<=35	User-Defined
05/12/2015 13:11	8 ACU	<=35	User-Defined
05/19/2015 13:27	8 ACU	<=35	User-Defined
05/26/2015 13:16	17 ACU	<=35	User-Defined

Color (apparent)		**Criteria**	
06/02/2015 13:16	3 ACU	<=35	User-Defined
06/09/2015 13:09	7 ACU	<=35	User-Defined
06/16/2015 12:57	19 ACU	<=35	User-Defined
06/22/2015 12:46	7 ACU	<=35	User-Defined
07/07/2015 13:57	8 ACU	<=35	User-Defined
07/14/2015 13:26	15 ACU	<=35	User-Defined
07/21/2015 13:57	18 ACU	<=35	User-Defined
07/27/2015 14:03	14 ACU	<=35	User-Defined
08/03/2015 13:19	9 ACU	<=35	User-Defined
08/11/2015 13:33	15 ACU	<=35	User-Defined
08/25/2015 13:00	17 ACU	<=35	User-Defined
09/08/2015 14:08	9 ACU	<=35	User-Defined
09/15/2015 13:08	12 ACU	<=35	User-Defined
09/29/2015 13:19	23 ACU	<=35	User-Defined
10/06/2015 13:42	23 ACU	<=35	User-Defined
10/13/2015 13:13	20 ACU	<=35	User-Defined
10/19/2015 13:11	5 ACU	<=35	User-Defined
11/11/2015 13:29	10 ACU	<=35	User-Defined
11/17/2015 10:49	4 ACU	<=35	User-Defined
12/08/2015 10:41	15 ACU	<=35	User-Defined
12/15/2015 09:02	19 ACU	<=35	User-Defined
12/22/2015 10:30	16 ACU	<=35	User-Defined

# samples:	40	**min:**	2 ACU
# detects:	40	**max:**	29 ACU
# non-detects:	0	**avg:**	12.650 ACU (based on 40 numerical results)
# of Exceedences:	0		

Escherichia coli / E. coli (counts)		**Criteria**	
01/06/2015 13:43	< 1 counts/100mL	<=0, P	Microbiological Standard
01/20/2015 11:57	< 1 counts/100mL	<=0, P	Microbiological Standard
02/10/2015 12:55	< 1 counts/100mL	<=0, P	Microbiological Standard
02/24/2015 13:37	< 1 counts/100mL	<=0, P	Microbiological Standard
03/10/2015 13:16	< 1 counts/100mL	<=0, P	Microbiological Standard
03/24/2015 13:16	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		Criteria	
04/07/2015 14:15	< 1 counts/100mL	<=0, P	Microbiological Standard
04/21/2015 13:04	< 1 counts/100mL	<=0, P	Microbiological Standard
05/12/2015 13:11	< 1 counts/100mL	<=0, P	Microbiological Standard
05/26/2015 13:16	< 1 counts/100mL	<=0, P	Microbiological Standard
06/09/2015 13:00	< 1 counts/100mL	<=0, P	Microbiological Standard
06/22/2015 12:46	< 1 counts/100mL	<=0, P	Microbiological Standard
07/07/2015 13:57	< 1 counts/100mL	<=0, P	Microbiological Standard
07/21/2015 13:59	< 1 counts/100mL	<=0, P	Microbiological Standard
08/11/2015 13:33	< 1 counts/100mL	<=0, P	Microbiological Standard
08/25/2015 13:00	< 1 counts/100mL	<=0, P	Microbiological Standard
09/08/2015 14:08	< 1 counts/100mL	<=0, P	Microbiological Standard
09/21/2015 14:00	< 1 counts/100mL	<=0, P	Microbiological Standard
10/06/2015 13:42	< 1 counts/100mL	<=0, P	Microbiological Standard
10/19/2015 13:11	< 1 counts/100mL	<=0, P	Microbiological Standard
11/03/2015 12:46	< 1 counts/100mL	<=0, P	Microbiological Standard
11/17/2015 10:49	< 1 counts/100mL	<=0, P	Microbiological Standard
12/01/2015 10:28	< 1 counts/100mL	<=0, P	Microbiological Standard
12/15/2015 09:02	< 1 counts/100mL	<=0, P	Microbiological Standard

# samples:	24	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	24	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Total Coliforms (counts)		Criteria	
01/06/2015 13:43	< 1 counts/100mL	<=10	User-Defined
01/20/2015 11:57	< 1 counts/100mL	<=10	User-Defined
02/10/2015 12:55	< 1 counts/100mL	<=10	User-Defined
02/24/2015 13:37	< 1 counts/100mL	<=10	User-Defined
03/10/2015 13:16	< 1 counts/100mL	<=10	User-Defined
03/24/2015 13:16	< 1 counts/100mL	<=10	User-Defined
04/07/2015 14:15	< 1 counts/100mL	<=10	User-Defined
04/21/2015 13:04	< 1 counts/100mL	<=10	User-Defined
05/12/2015 13:11	< 1 counts/100mL	<=10	User-Defined
05/26/2015 13:16	< 1 counts/100mL	<=10	User-Defined
06/09/2015 13:00	< 1 counts/100mL	<=10	User-Defined
06/22/2015 12:46	< 1 counts/100mL	<=10	User-Defined
07/07/2015 13:57	< 1 counts/100mL	<=10	User-Defined
07/21/2015 13:59	< 1 counts/100mL	<=10	User-Defined
08/11/2015 13:33	< 1 counts/100mL	<=10	User-Defined
08/25/2015 13:00	< 1 counts/100mL	<=10	User-Defined
09/08/2015 14:08	< 1 counts/100mL	<=10	User-Defined
09/21/2015 14:00	< 1 counts/100mL	<=10	User-Defined
10/06/2015 13:42	< 1 counts/100mL	<=10	User-Defined
10/19/2015 13:11	< 1 counts/100mL	<=10	User-Defined
11/03/2015 12:46	< 1 counts/100mL	<=10	User-Defined
11/17/2015 10:49	< 1 counts/100mL	<=10	User-Defined
12/01/2015 10:28	< 1 counts/100mL	<=10	User-Defined
12/15/2015 09:02	< 1 counts/100mL	<=10	User-Defined

# samples:	24	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	24	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Turbidity		Criteria	
01/06/2015 13:44	0.54 NTU	<=5	User-Defined
01/13/2015 12:52	0.65 NTU	<=5	User-Defined
01/20/2015 11:57	0.57 NTU	<=5	User-Defined
02/03/2015 13:20	0.83 NTU	<=5	User-Defined
02/16/2015 13:33	0.75 NTU	<=5	User-Defined
02/24/2015 13:37	1.52 NTU	<=5	User-Defined
03/03/2015 13:01	0.86 NTU	<=5	User-Defined
03/10/2015 13:16	1.22 NTU	<=5	User-Defined
03/16/2015 12:17	1.67 NTU	<=5	User-Defined

Turbidity		**Criteria**	
03/24/2015 13:16	0.74 NTU	<=5	User-Defined
04/07/2015 14:15	0.68 NTU	<=5	User-Defined
04/14/2015 13:32	1.16 NTU	<=5	User-Defined
04/21/2015 13:04	0.82 NTU	<=5	User-Defined
04/27/2015 14:14	0.93 NTU	<=5	User-Defined
05/05/2015 13:31	0.73 NTU	<=5	User-Defined
05/12/2015 13:11	1.07 NTU	<=5	User-Defined
05/19/2015 13:27	1.02 NTU	<=5	User-Defined
05/26/2015 13:16	0.81 NTU	<=5	User-Defined
06/02/2015 13:16	0.57 NTU	<=5	User-Defined
06/09/2015 13:09	0.70 NTU	<=5	User-Defined
06/16/2015 12:57	0.76 NTU	<=5	User-Defined
06/22/2015 12:46	1.12 NTU	<=5	User-Defined
07/07/2015 13:57	1.03 NTU	<=5	User-Defined
07/14/2015 13:26	0.91 NTU	<=5	User-Defined
07/21/2015 13:57	0.78 NTU	<=5	User-Defined
07/27/2015 14:03	0.75 NTU	<=5	User-Defined
08/03/2015 13:19	0.75 NTU	<=5	User-Defined
08/11/2015 13:33	0.90 NTU	<=5	User-Defined
08/25/2015 13:00	1.04 NTU	<=5	User-Defined
09/08/2015 14:08	1.07 NTU	<=5	User-Defined
09/15/2015 13:08	0.96 NTU	<=5	User-Defined
09/29/2015 13:19	1.38 NTU	<=5	User-Defined
10/06/2015 13:42	0.94 NTU	<=5	User-Defined
10/13/2015 13:13	0.69 NTU	<=5	User-Defined
10/19/2015 13:11	0.60 NTU	<=5	User-Defined
11/03/2015 12:46	0.54 NTU	<=5	User-Defined
11/11/2015 13:29	0.40 NTU	<=5	User-Defined
11/17/2015 10:49	0.73 NTU	<=5	User-Defined
12/08/2015 10:41	0.76 NTU	<=5	User-Defined
12/15/2015 09:02	0.92 NTU	<=5	User-Defined
12/22/2015 10:30	0.96 NTU	<=5	User-Defined

# samples:	41	**min:**	0.40 NTU
# detects:	41	**max:**	1.67 NTU
# non-detects:	0	**avg:**	0.874 NTU (based on 41 numerical results)
# of Exceedences:	0	**95th percentile:**	1.506 NTU

Facility:	Test Stations
Sampling Point:	Postill Rd. T/S 2012 (21-5-MD, 2897D)

Chlorine (free)		Criteria	
01/06/2015 11:34	1.29 mg/L	>=0.05	WaterTrax Suggested
01/07/2015 13:25	1.50 mg/L	>=0.05	WaterTrax Suggested
01/09/2015 10:50	1.37 mg/L	>=0.05	WaterTrax Suggested
01/13/2015 11:15	1.31 mg/L	>=0.05	WaterTrax Suggested
01/15/2015 11:30	1.31 mg/L	>=0.05	WaterTrax Suggested
01/19/2015 10:50	1.06 mg/L	>=0.05	WaterTrax Suggested
01/20/2015 10:58	1.23 mg/L	>=0.05	WaterTrax Suggested
01/21/2015 10:50	1.09 mg/L	>=0.05	WaterTrax Suggested
01/22/2015 10:52	1.36 mg/L	>=0.05	WaterTrax Suggested
02/02/2015 12:18	1.38 mg/L	>=0.05	WaterTrax Suggested
02/03/2015 11:46	1.11 mg/L	>=0.05	WaterTrax Suggested
02/04/2015 12:45	1.17 mg/L	>=0.05	WaterTrax Suggested
02/05/2015 11:50	1.26 mg/L	>=0.05	WaterTrax Suggested
02/06/2015 10:15	1.27 mg/L	>=0.05	WaterTrax Suggested
02/11/2015 11:10	1.47 mg/L	>=0.05	WaterTrax Suggested
02/12/2015 08:40	1.31 mg/L	>=0.05	WaterTrax Suggested
02/13/2015 12:35	1.62 mg/L	>=0.05	WaterTrax Suggested
02/16/2015 11:48	1.36 mg/L	>=0.05	WaterTrax Suggested
02/18/2015 11:55	1.08 mg/L	>=0.05	WaterTrax Suggested
02/23/2015 11:50	1.06 mg/L	>=0.05	WaterTrax Suggested
02/24/2015 13:03	1.10 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
03/03/2015 11:19	0.86 mg/L	>=0.05	WaterTrax Suggested
03/10/2015 11:56	1.02 mg/L	>=0.05	WaterTrax Suggested
03/16/2015 11:44	1.31 mg/L	>=0.05	WaterTrax Suggested
03/24/2015 11:31	1.31 mg/L	>=0.05	WaterTrax Suggested
03/31/2015 11:13	1.46 mg/L	>=0.05	WaterTrax Suggested
04/07/2015 13:00	1.36 mg/L	>=0.05	WaterTrax Suggested
04/14/2015 12:32	1.46 mg/L	>=0.05	WaterTrax Suggested
04/21/2015 11:17	3.71 mg/L	>=0.05	WaterTrax Suggested
04/27/2015 11:36	6.0 mg/L	>=0.05	WaterTrax Suggested
05/05/2015 11:52	2.13 mg/L	>=0.05	WaterTrax Suggested
05/12/2015 11:25	2.98 mg/L	>=0.05	WaterTrax Suggested
05/19/2015 11:52	2.91 mg/L	>=0.05	WaterTrax Suggested
06/02/2015 11:26	2.36 mg/L	>=0.05	WaterTrax Suggested
06/09/2015 11:03	4.4 mg/L	>=0.05	WaterTrax Suggested
06/16/2015 11:22	2.78 mg/L	>=0.05	WaterTrax Suggested
06/22/2015 11:04	2.73 mg/L	>=0.05	WaterTrax Suggested
06/30/2015 11:14	1.30 mg/L	>=0.05	WaterTrax Suggested
07/07/2015 11:57	2.33 mg/L	>=0.05	WaterTrax Suggested
07/14/2015 11:35	2.51 mg/L	>=0.05	WaterTrax Suggested
07/21/2015 11:09	2.65 mg/L	>=0.05	WaterTrax Suggested
07/27/2015 12:00	2.59 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
08/03/2015 11:49	2.29 mg/L	>=0.05	WaterTrax Suggested
08/11/2015 11:42	2.41 mg/L	>=0.05	WaterTrax Suggested
08/18/2015 11:25	2.55 mg/L	>=0.05	WaterTrax Suggested
08/25/2015 11:14	1.94 mg/L	>=0.05	WaterTrax Suggested
09/01/2015 12:06	1.59 mg/L	>=0.05	WaterTrax Suggested
09/08/2015 11:54	6.2 mg/L	>=0.05	WaterTrax Suggested
09/15/2015 11:23	2.18 mg/L	>=0.05	WaterTrax Suggested
09/21/2015 12:00	1.96 mg/L	>=0.05	WaterTrax Suggested
09/29/2015 11:33	3.08 mg/L	>=0.05	WaterTrax Suggested
10/06/2015 11:58	1.93 mg/L	>=0.05	WaterTrax Suggested
10/19/2015 11:36	2.35 mg/L	>=0.05	WaterTrax Suggested
11/03/2015 11:25	1.51 mg/L	>=0.05	WaterTrax Suggested
11/11/2015 11:28	1.48 mg/L	>=0.05	WaterTrax Suggested
11/17/2015 08:37	1.18 mg/L	>=0.05	WaterTrax Suggested
11/24/2015 11:42	1.80 mg/L	>=0.05	WaterTrax Suggested
12/08/2015 08:49	1.35 mg/L	>=0.05	WaterTrax Suggested
12/15/2015 11:16	1.34 mg/L	>=0.05	WaterTrax Suggested
12/22/2015 08:56	1.31 mg/L	>=0.05	WaterTrax Suggested
12/29/2015 10:31	1.56 mg/L	>=0.05	WaterTrax Suggested

# samples:	61	**min:**	0.86 mg/L
# detects:	61	**max:**	6.2 mg/L
# non-detects:	0	**avg:**	1.916 mg/L (based on 61 numerical results)
# of Exceedences:	0		

Color (apparent)		Criteria	
01/06/2015 11:34	3 ACU	<=35	User-Defined
01/13/2015 11:15	16 ACU	<=35	User-Defined
01/20/2015 10:58	0 ACU	<=35	User-Defined
02/03/2015 11:46	0 ACU	<=35	User-Defined
02/16/2015 11:48	15 ACU	<=35	User-Defined
02/24/2015 13:03	3 ACU	<=35	User-Defined
03/03/2015 11:19	4 ACU	<=35	User-Defined
03/10/2015 11:56	28 ACU	<=35	User-Defined
03/16/2015 11:44	5 ACU	<=35	User-Defined
03/24/2015 11:31	0 ACU	<=35	User-Defined
03/31/2015 11:13	7 ACU	<=35	User-Defined
04/07/2015 13:00	0 ACU	<=35	User-Defined
04/14/2015 12:32	6 ACU	<=35	User-Defined
*** 04/21/2015 11:17**	**104 ACU**	**<=35**	**User-Defined**
*** 04/27/2015 11:36**	**95 ACU**	**<=35**	**User-Defined**
*** 05/05/2015 11:52**	**95 ACU**	**<=35**	**User-Defined**
*** 05/12/2015 11:25**	**77 ACU**	**<=35**	**User-Defined**
*** 05/19/2015 11:52**	**73 ACU**	**<=35**	**User-Defined**
*** 06/02/2015 11:26**	**63 ACU**	**<=35**	**User-Defined**
*** 06/09/2015 11:03**	**69 ACU**	**<=35**	**User-Defined**
*** 06/16/2015 11:22**	**55 ACU**	**<=35**	**User-Defined**
*** 06/22/2015 11:04**	**63 ACU**	**<=35**	**User-Defined**
*** 07/07/2015 11:57**	**59 ACU**	**<=35**	**User-Defined**
*** 07/14/2015 11:35**	**70 ACU**	**<=35**	**User-Defined**
*** 07/21/2015 11:09**	**69 ACU**	**<=35**	**User-Defined**
*** 07/27/2015 12:00**	**52 ACU**	**<=35**	**User-Defined**
*** 08/11/2015 11:42**	**64 ACU**	**<=35**	**User-Defined**

Color (apparent)		Criteria	
*** 08/18/2015 11:25**	**63 ACU**	**<=35**	**User-Defined**
*** 08/25/2015 11:14**	**63 ACU**	**<=35**	**User-Defined**
*** 09/08/2015 11:54**	**56 ACU**	**<=35**	**User-Defined**
*** 09/15/2015 11:23**	**55 ACU**	**<=35**	**User-Defined**
*** 09/29/2015 11:33**	**53 ACU**	**<=35**	**User-Defined**
10/06/2015 11:58	35 ACU	<=35	User-Defined
10/13/2015 11:51	24 ACU	<=35	User-Defined
10/19/2015 11:36	9 ACU	<=35	User-Defined
11/11/2015 11:28	18 ACU	<=35	User-Defined
11/17/2015 08:37	10 ACU	<=35	User-Defined
*** 11/24/2015 11:42**	**93 ACU**	**<=35**	**User-Defined**
12/08/2015 08:49	2 ACU	<=35	User-Defined
12/15/2015 11:16	13 ACU	<=35	User-Defined
12/22/2015 08:56	20 ACU	<=35	User-Defined

# samples:	41	**min:**	0 ACU
# detects:	41	**max:**	104 ACU
# non-detects:	0	**avg:**	39.244 ACU (based on 41 numerical results)
# of Exceedences:	20		

Escherichia coli / E. coli (counts)		Criteria	
01/06/2015 11:39	< 1 counts/100mL	<=0, P	Microbiological Standard
01/13/2015 11:15	< 1 counts/100mL	<=0, P	Microbiological Standard
01/20/2015 10:58	< 1 counts/100mL	<=0, P	Microbiological Standard
01/27/2015 12:05	ND counts/100mL	<=0, P	Microbiological Standard
02/03/2015 11:41	< 1 counts/100mL	<=0, P	Microbiological Standard
02/10/2015 11:14	< 1 counts/100mL	<=0, P	Microbiological Standard
02/16/2015 11:48	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		**Criteria**	
02/24/2015 13:03	< 1 counts/100mL	<=0, P	Microbiological Standard
03/03/2015 11:19	< 1 counts/100mL	<=0, P	Microbiological Standard
03/10/2015 11:56	< 1 counts/100mL	<=0, P	Microbiological Standard
03/16/2015 11:44	< 1 counts/100mL	<=0, P	Microbiological Standard
03/24/2015 11:31	< 1 counts/100mL	<=0, P	Microbiological Standard
03/31/2015 11:13	< 1 counts/100mL	<=0, P	Microbiological Standard
04/07/2015 13:00	< 1 counts/100mL	<=0, P	Microbiological Standard
04/14/2015 12:32	< 1 counts/100mL	<=0, P	Microbiological Standard
04/21/2015 11:17	< 1 counts/100mL	<=0, P	Microbiological Standard
04/27/2015 11:36	< 1 counts/100mL	<=0, P	Microbiological Standard
05/05/2015 11:52	< 1 counts/100mL	<=0, P	Microbiological Standard
05/12/2015 11:25	< 1 counts/100mL	<=0, P	Microbiological Standard
05/19/2015 11:52	< 1 counts/100mL	<=0, P	Microbiological Standard
05/26/2015 11:20	< 1 counts/100mL	<=0, P	Microbiological Standard
06/02/2015 11:23	< 1 counts/100mL	<=0, P	Microbiological Standard
06/08/2015 08:47	< 1 counts/100mL	<=0, P	Microbiological Standard
06/16/2015 11:32	< 1 counts/100mL	<=0, P	Microbiological Standard
06/22/2015 11:04	< 1 counts/100mL	<=0, P	Microbiological Standard
06/30/2015 11:14	< 1 counts/100mL	<=0, P	Microbiological Standard
07/03/2015 09:55	< 1 counts/100mL	<=0, P	Microbiological Standard
07/07/2015 11:57	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		Criteria	
07/10/2015 13:43	< 1 counts/100mL	<=0, P	Microbiological Standard
07/14/2015 11:35	< 1 counts/100mL	<=0, P	Microbiological Standard
07/17/2015 11:19	< 1 counts/100mL	<=0, P	Microbiological Standard
07/21/2015 11:08	< 1 counts/100mL	<=0, P	Microbiological Standard
07/24/2015 14:06	< 1 counts/100mL	<=0, P	Microbiological Standard
07/27/2015 12:00	< 1 counts/100mL	<=0, P	Microbiological Standard
08/04/2015 11:49	< 1 counts/100mL	<=0, P	Microbiological Standard
08/11/2015 11:42	< 1 counts/100mL	<=0, P	Microbiological Standard
08/18/2015 11:21	< 1 counts/100mL	<=0, P	Microbiological Standard
08/25/2015 11:14	< 1 counts/100mL	<=0, P	Microbiological Standard
09/01/2015 12:05	< 1 counts/100mL	<=0, P	Microbiological Standard
09/08/2015 11:54	< 1 counts/100mL	<=0, P	Microbiological Standard
09/15/2015 11:25	< 1 counts/100mL	<=0, P	Microbiological Standard
09/17/2015 11:21	< 1 counts/100mL	<=0, P	Microbiological Standard
09/21/2015 12:00	< 1 counts/100mL	<=0, P	Microbiological Standard
09/29/2015 11:33	< 1 counts/100mL	<=0, P	Microbiological Standard
10/09/2015 13:55	< 1 counts/100mL	<=0, P	Microbiological Standard
10/13/2015 11:51	< 1 counts/100mL	<=0, P	Microbiological Standard
10/19/2015 11:36	< 1 counts/100mL	<=0, P	Microbiological Standard
10/27/2015 11:30	< 1 counts/100mL	<=0, P	Microbiological Standard
11/03/2015 11:25	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		**Criteria**	
11/10/2015 11:28	< 1 counts/100mL	<=0, P	Microbiological Standard
11/17/2015 08:37	< 1 counts/100mL	<=0, P	Microbiological Standard
11/24/2015 11:42	< 1 counts/100mL	<=0, P	Microbiological Standard
12/01/2015 08:29	< 1 counts/100mL	<=0, P	Microbiological Standard
12/08/2015 08:49	< 1 counts/100mL	<=0, P	Microbiological Standard
12/15/2015 11:16	< 1 counts/100mL	<=0, P	Microbiological Standard
12/22/2015 08:56	< 1 counts/100mL	<=0, P	Microbiological Standard
12/29/2015 10:31	< 1 counts/100mL	<=0, P	Microbiological Standard

# samples:	57	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	57	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

pH		**Criteria**	
09/17/2015 11:21	7.10		

# samples:	1	**min:**	7.10
# detects:	1	**max:**	7.10
# non-detects:	0	**avg:**	7.100 (based on 1 numerical results)
# of Exceedences:	0		

Temperature		**Criteria**	
01/06/2015 11:34	8.2 degrees C	<=15	AO
01/13/2015 11:15	7.8 degrees C	<=15	AO
01/20/2015 10:58	6.8 degrees C	<=15	AO
02/03/2015 11:46	7.6 degrees C	<=15	AO
02/16/2015 11:48	6.2 degrees C	<=15	AO
02/24/2015 13:03	8.8 degrees C	<=15	AO
03/03/2015 11:19	6.8 degrees C	<=15	AO
03/10/2015 11:56	12 degrees C	<=15	AO
03/16/2015 11:44	8.6 degrees C	<=15	AO
03/24/2015 11:31	9.4 degrees C	<=15	AO

Temperature		**Criteria**	
03/31/2015 11:13	9.6 degrees C	<=15	AO
04/14/2015 12:32	9.8 degrees C	<=15	AO
04/21/2015 11:17	9.2 degrees C	<=15	AO
04/27/2015 11:36	6.5 degrees C	<=15	AO
05/05/2015 11:52	7.8 degrees C	<=15	AO
05/12/2015 11:25	10.2 degrees C	<=15	AO
05/19/2015 11:52	14.4 degrees C	<=15	AO
*** 06/02/2015 11:26**	**15.2 degrees C**	**<=15**	**AO**
*** 06/09/2015 11:03**	**16.4 degrees C**	**<=15**	**AO**
06/16/2015 11:22	12.6 degrees C	<=15	AO
06/22/2015 11:04	13 degrees C	<=15	AO
06/30/2015 11:14	14.5 degrees C	<=15	AO
*** 07/07/2015 11:57**	**19.6 degrees C**	**<=15**	**AO**
*** 07/14/2015 11:35**	**18.8 degrees C**	**<=15**	**AO**
*** 07/21/2015 11:09**	**16.6 degrees C**	**<=15**	**AO**
*** 07/27/2015 12:00**	**15.2 degrees C**	**<=15**	**AO**
*** 08/03/2015 11:49**	**19.6 degrees C**	**<=15**	**AO**
*** 08/11/2015 11:42**	**19.8 degrees C**	**<=15**	**AO**
*** 08/18/2015 11:25**	**17.6 degrees C**	**<=15**	**AO**
*** 08/25/2015 11:14**	**15.4 degrees C**	**<=15**	**AO**
09/08/2015 11:54	12.6 degrees C	<=15	AO
09/15/2015 11:23	12.2 degrees C	<=15	AO
09/21/2015 12:00	14.6 degrees C	<=15	AO
09/29/2015 11:33	10.8 degrees C	<=15	AO
10/06/2015 11:58	11.2 degrees C	<=15	AO
10/13/2015 11:51	12.4 degrees C	<=15	AO
10/19/2015 11:36	13.8 degrees C	<=15	AO
11/03/2015 11:25	10.9 degrees C	<=15	AO
11/11/2015 11:28	10.2 degrees C	<=15	AO
11/17/2015 08:37	8.8 degrees C	<=15	AO
11/24/2015 11:42	6.6 degrees C	<=15	AO

Temperature		**Criteria**	
12/08/2015 08:49	9.2 degrees C	<=15	AO
12/15/2015 11:16	7.2 degrees C	<=15	AO
12/22/2015 08:56	6.8 degrees C	<=15	AO
12/29/2015 10:31	6.8 degrees C	<=15	AO

# samples:	45	**min:**	6.2 degrees C
# detects:	45	**max:**	19.8 degrees C
# non-detects:	0	**avg:**	11.513 degrees C (based on 45 numerical results)
# of Exceedences:	10		

Total Coliforms (counts)		**Criteria**	
01/06/2015 11:39	< 1 counts/100mL	<=10	User-Defined
01/13/2015 11:15	< 1 counts/100mL	<=10	User-Defined
01/20/2015 10:58	< 1 counts/100mL	<=10	User-Defined
01/27/2015 12:05	ND counts/100mL	<=10	User-Defined
02/03/2015 11:41	< 1 counts/100mL	<=10	User-Defined
02/10/2015 11:14	< 1 counts/100mL	<=10	User-Defined
02/16/2015 11:48	< 1 counts/100mL	<=10	User-Defined
02/24/2015 13:03	< 1 counts/100mL	<=10	User-Defined
03/03/2015 11:19	< 1 counts/100mL	<=10	User-Defined
03/10/2015 11:56	< 1 counts/100mL	<=10	User-Defined
03/16/2015 11:44	< 1 counts/100mL	<=10	User-Defined
03/24/2015 11:31	< 1 counts/100mL	<=10	User-Defined
03/31/2015 11:13	< 1 counts/100mL	<=10	User-Defined
04/07/2015 13:00	< 1 counts/100mL	<=10	User-Defined
04/14/2015 12:32	< 1 counts/100mL	<=10	User-Defined
04/21/2015 11:17	< 1 counts/100mL	<=10	User-Defined
04/27/2015 11:36	< 1 counts/100mL	<=10	User-Defined
05/05/2015 11:52	< 1 counts/100mL	<=10	User-Defined
05/12/2015 11:25	< 1 counts/100mL	<=10	User-Defined
05/19/2015 11:52	< 1 counts/100mL	<=10	User-Defined
05/26/2015 11:20	< 1 counts/100mL	<=10	User-Defined
06/02/2015 11:23	< 1 counts/100mL	<=10	User-Defined
06/08/2015 08:47	< 1 counts/100mL	<=10	User-Defined
06/16/2015 11:32	< 1 counts/100mL	<=10	User-Defined
06/22/2015 11:04	< 1 counts/100mL	<=10	User-Defined
06/30/2015 11:14	< 1 counts/100mL	<=10	User-Defined
07/03/2015 09:55	< 1 counts/100mL	<=10	User-Defined
07/07/2015 11:57	< 1 counts/100mL	<=10	User-Defined
07/10/2015 13:43	< 1 counts/100mL	<=10	User-Defined

Total Coliforms (counts)		**Criteria**	
07/14/2015 11:35	< 1 counts/100mL	<=10	User-Defined
07/17/2015 11:19	< 1 counts/100mL	<=10	User-Defined
07/21/2015 11:08	< 1 counts/100mL	<=10	User-Defined
07/24/2015 14:06	< 1 counts/100mL	<=10	User-Defined
07/27/2015 12:00	< 1 counts/100mL	<=10	User-Defined
08/04/2015 11:49	< 1 counts/100mL	<=10	User-Defined
08/11/2015 11:42	< 1 counts/100mL	<=10	User-Defined
08/18/2015 11:21	< 1 counts/100mL	<=10	User-Defined
08/25/2015 11:14	< 1 counts/100mL	<=10	User-Defined
09/01/2015 12:05	< 1 counts/100mL	<=10	User-Defined
09/08/2015 11:54	< 1 counts/100mL	<=10	User-Defined
09/15/2015 11:25	< 1 counts/100mL	<=10	User-Defined
09/17/2015 11:21	< 1 counts/100mL	<=10	User-Defined
09/21/2015 12:00	< 1 counts/100mL	<=10	User-Defined
09/29/2015 11:33	< 1 counts/100mL	<=10	User-Defined
10/09/2015 13:55	< 1 counts/100mL	<=10	User-Defined
10/13/2015 11:51	< 1 counts/100mL	<=10	User-Defined
10/19/2015 11:36	< 1 counts/100mL	<=10	User-Defined
10/27/2015 11:30	< 1 counts/100mL	<=10	User-Defined
11/03/2015 11:25	< 1 counts/100mL	<=10	User-Defined
11/10/2015 11:28	< 1 counts/100mL	<=10	User-Defined
11/17/2015 08:37	< 1 counts/100mL	<=10	User-Defined
11/24/2015 11:42	< 1 counts/100mL	<=10	User-Defined
12/01/2015 08:29	< 1 counts/100mL	<=10	User-Defined
12/08/2015 08:49	< 1 counts/100mL	<=10	User-Defined
12/15/2015 11:16	< 1 counts/100mL	<=10	User-Defined
12/22/2015 08:56	< 1 counts/100mL	<=10	User-Defined
12/29/2015 10:31	< 1 counts/100mL	<=10	User-Defined

# samples:	57	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	57	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Turbidity		**Criteria**	
01/06/2015 11:34	0.55 NTU	<=5	User-Defined
01/13/2015 11:15	0.44 NTU	<=5	User-Defined
01/20/2015 10:58	0.19 NTU	<=5	User-Defined
02/03/2015 11:46	0.27 NTU	<=5	User-Defined
02/16/2015 11:48	0.72 NTU	<=5	User-Defined

Turbidity		Criteria	
02/24/2015 13:03	0.35 NTU	<=5	User-Defined
03/03/2015 11:19	0.27 NTU	<=5	User-Defined
03/10/2015 11:56	0.89 NTU	<=5	User-Defined
03/16/2015 11:44	0.52 NTU	<=5	User-Defined
03/24/2015 11:31	0.29 NTU	<=5	User-Defined
03/31/2015 11:13	0.23 NTU	<=5	User-Defined
04/07/2015 13:00	0.22 NTU	<=5	User-Defined
04/14/2015 12:32	0.22 NTU	<=5	User-Defined
04/21/2015 11:17	4.14 NTU	<=5	User-Defined
04/27/2015 11:36	3.84 NTU	<=5	User-Defined
05/05/2015 11:52	3.22 NTU	<=5	User-Defined
05/12/2015 11:25	3.41 NTU	<=5	User-Defined
05/19/2015 11:52	3.73 NTU	<=5	User-Defined
06/02/2015 11:26	2.65 NTU	<=5	User-Defined
06/09/2015 11:03	4.14 NTU	<=5	User-Defined
06/16/2015 11:22	2.89 NTU	<=5	User-Defined
06/22/2015 11:04	2.81 NTU	<=5	User-Defined
07/03/2015 11:43	1.3 NTU	<=5	User-Defined
07/07/2015 11:57	3.95 NTU	<=5	User-Defined
07/14/2015 11:35	3.28 NTU	<=5	User-Defined
07/21/2015 11:09	2.65 NTU	<=5	User-Defined
07/27/2015 12:00	2.64 NTU	<=5	User-Defined
08/11/2015 11:42	3.02 NTU	<=5	User-Defined
08/18/2015 11:25	2.95 NTU	<=5	User-Defined
08/25/2015 11:14	3.38 NTU	<=5	User-Defined
09/08/2015 11:54	2.48 NTU	<=5	User-Defined
09/15/2015 11:23	2.20 NTU	<=5	User-Defined
09/17/2015 11:21	1.9 NTU	<=5	User-Defined
09/29/2015 11:33	2.48 NTU	<=5	User-Defined
10/06/2015 11:58	1.70 NTU	<=5	User-Defined
10/13/2015 11:51	0.32 NTU	<=5	User-Defined
10/19/2015 11:36	0.28 NTU	<=5	User-Defined
11/03/2015 11:25	0.22 NTU	<=5	User-Defined
11/11/2015 11:28	0.25 NTU	<=5	User-Defined
11/17/2015 08:37	0.17 NTU	<=5	User-Defined
11/24/2015 11:42	1.94 NTU	<=5	User-Defined
12/08/2015 08:49	0.79 NTU	<=5	User-Defined
12/15/2015 11:16	0.24 NTU	<=5	User-Defined
12/22/2015 08:56	0.31 NTU	<=5	User-Defined

# samples:	44	**min:**	0.17 NTU
# detects:	44	**max:**	4.14 NTU
# non-detects:	0	**avg:**	1.692 NTU (based on 44 numerical results)
# of Exceedences:	0	**95th percentile:**	4.093 NTU

Facility:	Wells; Airport Well
Sampling Point:	Airport Well #1 Treated (44-1-EP, 2897A)

Chlorine (free)		**Criteria**	
01/06/2015 12:59	1.90 mg/L	>=0.05	WaterTrax Suggested
01/07/2015 14:20	1.96 mg/L	>=0.05	WaterTrax Suggested
01/09/2015 12:00	2.09 mg/L	>=0.05	WaterTrax Suggested
01/13/2015 12:39	1.66 mg/L	>=0.05	WaterTrax Suggested
01/15/2015 12:30	1.76 mg/L	>=0.05	WaterTrax Suggested
01/19/2015 11:00	1.74 mg/L	>=0.05	WaterTrax Suggested
01/20/2015 11:44	1.65 mg/L	>=0.05	WaterTrax Suggested
01/21/2015 13:25	1.57 mg/L	>=0.05	WaterTrax Suggested
01/22/2015 11:30	1.67 mg/L	>=0.05	WaterTrax Suggested
02/02/2015 13:35	1.60 mg/L	>=0.05	WaterTrax Suggested
02/03/2015 13:03	1.53 mg/L	>=0.05	WaterTrax Suggested
02/04/2015 13:40	1.63 mg/L	>=0.05	WaterTrax Suggested
02/05/2015 13:00	1.77 mg/L	>=0.05	WaterTrax Suggested
02/06/2015 11:11	1.63 mg/L	>=0.05	WaterTrax Suggested
02/11/2015 11:55	1.72 mg/L	>=0.05	WaterTrax Suggested
02/12/2015 09:30	1.63 mg/L	>=0.05	WaterTrax Suggested
02/13/2015 12:15	1.67 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
02/16/2015 13:17	1.59 mg/L	>=0.05	WaterTrax Suggested
02/18/2015 13:20	1.62 mg/L	>=0.05	WaterTrax Suggested
02/23/2015 13:15	1.77 mg/L	>=0.05	WaterTrax Suggested
02/24/2015 12:30	1.67 mg/L	>=0.05	WaterTrax Suggested
03/03/2015 12:39	1.63 mg/L	>=0.05	WaterTrax Suggested
03/10/2015 13:11	1.92 mg/L	>=0.05	WaterTrax Suggested
03/16/2015 12:02	1.61 mg/L	>=0.05	WaterTrax Suggested
03/24/2015 13:04	1.50 mg/L	>=0.05	WaterTrax Suggested
04/07/2015 13:55	1.54 mg/L	>=0.05	WaterTrax Suggested
04/14/2015 13:17	1.77 mg/L	>=0.05	WaterTrax Suggested
04/21/2015 12:47	1.65 mg/L	>=0.05	WaterTrax Suggested
04/27/2015 13:58	1.67 mg/L	>=0.05	WaterTrax Suggested
05/12/2015 12:55	2.47 mg/L	>=0.05	WaterTrax Suggested
05/19/2015 13:11	1.94 mg/L	>=0.05	WaterTrax Suggested
05/26/2015 12:59	1.93 mg/L	>=0.05	WaterTrax Suggested
06/02/2015 13:04	2.09 mg/L	>=0.05	WaterTrax Suggested
06/09/2015 12:57	2.01 mg/L	>=0.05	WaterTrax Suggested
06/16/2015 12:48	1.74 mg/L	>=0.05	WaterTrax Suggested
06/22/2015 12:30	1.91 mg/L	>=0.05	WaterTrax Suggested
06/30/2015 13:12	2.13 mg/L	>=0.05	WaterTrax Suggested
07/07/2015 13:43	1.95 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
07/14/2015 13:06	1.63 mg/L	>=0.05	WaterTrax Suggested
07/27/2015 13:41	1.52 mg/L	>=0.05	WaterTrax Suggested
08/03/2015 13:04	1.89 mg/L	>=0.05	WaterTrax Suggested
08/11/2015 13:15	1.78 mg/L	>=0.05	WaterTrax Suggested
08/18/2015 13:10	1.64 mg/L	>=0.05	WaterTrax Suggested
08/25/2015 12:53	2.02 mg/L	>=0.05	WaterTrax Suggested
09/01/2015 12:53	1.92 mg/L	>=0.05	WaterTrax Suggested
09/08/2015 14:00	2.05 mg/L	>=0.05	WaterTrax Suggested
09/15/2015 12:53	2.00 mg/L	>=0.05	WaterTrax Suggested
09/21/2015 13:39	1.91 mg/L	>=0.05	WaterTrax Suggested
09/29/2015 13:04	1.89 mg/L	>=0.05	WaterTrax Suggested
10/06/2015 12:00	2.25 mg/L	>=0.05	WaterTrax Suggested
10/13/2015 12:59	1.96 mg/L	>=0.05	WaterTrax Suggested
10/19/2015 12:56	2.32 mg/L	>=0.05	WaterTrax Suggested
11/03/2015 12:30	2.15 mg/L	>=0.05	WaterTrax Suggested
11/11/2015 13:09	1.74 mg/L	>=0.05	WaterTrax Suggested
11/17/2015 10:15	1.62 mg/L	>=0.05	WaterTrax Suggested
11/24/2015 13:17	1.86 mg/L	>=0.05	WaterTrax Suggested
12/08/2015 10:20	1.66 mg/L	>=0.05	WaterTrax Suggested
12/15/2015 09:13	1.61 mg/L	>=0.05	WaterTrax Suggested
12/22/2015 10:15	1.60 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
12/29/2015 11:27	1.82 mg/L	>=0.05	WaterTrax Suggested

# samples:	60	**min:**	1.50 mg/L
# detects:	60	**max:**	2.47 mg/L
# non-detects:	0	**avg:**	1.802 mg/L (based on 60 numerical results)
# of Exceedences:	0		

Color (apparent)		**Criteria**	
01/06/2015 12:59	10 ACU	<=35	User-Defined
01/07/2015 14:20	7 ACU	<=35	User-Defined
01/09/2015 12:00	3 ACU	<=35	User-Defined
01/13/2015 12:39	11 ACU	<=35	User-Defined
01/15/2015 12:30	6 ACU	<=35	User-Defined
01/19/2015 11:00	5 ACU	<=35	User-Defined
01/21/2015 13:25	0 ACU	<=35	User-Defined
01/22/2015 11:30	0 ACU	<=35	User-Defined
02/02/2015 13:35	1 ACU	<=35	User-Defined
02/03/2015 13:03	2 ACU	<=35	User-Defined
02/06/2015 11:11	4 ACU	<=35	User-Defined
02/13/2015 12:15	2 ACU	<=35	User-Defined
02/16/2015 13:17	11 ACU	<=35	User-Defined
02/18/2015 13:20	3 ACU	<=35	User-Defined
02/23/2015 13:15	3 ACU	<=35	User-Defined
02/24/2015 12:30	9 ACU	<=35	User-Defined
03/03/2015 12:39	6 ACU	<=35	User-Defined
03/16/2015 12:02	18 ACU	<=35	User-Defined
03/24/2015 13:04	3 ACU	<=35	User-Defined
03/31/2015 12:42	11 ACU	<=35	User-Defined
04/07/2015 13:55	15 ACU	<=35	User-Defined
04/14/2015 13:17	9 ACU	<=35	User-Defined
04/21/2015 12:47	22 ACU	<=35	User-Defined
04/27/2015 13:58	16 ACU	<=35	User-Defined
05/05/2015 13:16	13 ACU	<=35	User-Defined
05/12/2015 12:55	17 ACU	<=35	User-Defined
05/19/2015 13:11	28 ACU	<=35	User-Defined
05/26/2015 12:59	26 ACU	<=35	User-Defined
06/02/2015 13:04	22 ACU	<=35	User-Defined
06/09/2015 12:57	15 ACU	<=35	User-Defined
06/16/2015 12:48	2 ACU	<=35	User-Defined

Color (apparent)		**Criteria**	
06/22/2015 12:30	13 ACU	<=35	User-Defined
07/07/2015 13:43	10 ACU	<=35	User-Defined
07/14/2015 13:06	17 ACU	<=35	User-Defined
07/21/2015 14:09	8 ACU	<=35	User-Defined
07/27/2015 13:41	8 ACU	<=35	User-Defined
08/03/2015 13:04	1 ACU	<=35	User-Defined
08/11/2015 13:15	13 ACU	<=35	User-Defined
08/18/2015 13:10	13 ACU	<=35	User-Defined
08/25/2015 12:53	19 ACU	<=35	User-Defined
09/01/2015 12:53	7 ACU	<=35	User-Defined
09/08/2015 14:00	13 ACU	<=35	User-Defined
09/15/2015 12:53	13 ACU	<=35	User-Defined
09/29/2015 13:04	19 ACU	<=35	User-Defined
10/06/2015 12:00	17 ACU	<=35	User-Defined
10/19/2015 12:56	13 ACU	<=35	User-Defined
11/11/2015 13:09	10 ACU	<=35	User-Defined
11/17/2015 10:15	4 ACU	<=35	User-Defined
11/24/2015 13:17	23 ACU	<=35	User-Defined
12/08/2015 10:20	10 ACU	<=35	User-Defined
12/15/2015 09:13	12 ACU	<=35	User-Defined
12/22/2015 10:15	9 ACU	<=35	User-Defined
12/29/2015 11:27	12 ACU	<=35	User-Defined

# samples:	53	**min:**	0 ACU
# detects:	53	**max:**	28 ACU
# non-detects:	0	**avg:**	10.642 ACU (based on 53 numerical results)
# of Exceedences:	0		

Escherichia coli / E. coli (counts)		**Criteria**	
01/13/2015 12:39	< 1 counts/100mL	<=0, P	Microbiological Standard
01/22/2015 08:48	< 1 counts/100mL	<=0, P	Microbiological Standard
01/27/2015 13:20	ND counts/100mL	<=0, P	Microbiological Standard
02/03/2015 13:03	< 1 counts/100mL	<=0, P	Microbiological Standard
02/12/2015 11:38	< 1 counts/100mL	<=0, P	Microbiological Standard
02/16/2015 13:17	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		Criteria	
03/03/2015 12:39	< 1 counts/100mL	<=0, P	Microbiological Standard
03/16/2015 12:02	< 1 counts/100mL	<=0, P	Microbiological Standard
03/31/2015 12:42	< 1 counts/100mL	<=0, P	Microbiological Standard
04/07/2015 13:40	< 1 counts/100mL	<=0, P	Microbiological Standard
04/14/2015 13:17	< 1 counts/100mL	<=0, P	Microbiological Standard
04/27/2015 13:58	< 1 counts/100mL	<=0, P	Microbiological Standard
05/05/2015 13:16	< 1 counts/100mL	<=0, P	Microbiological Standard
05/19/2015 13:11	< 1 counts/100mL	<=0, P	Microbiological Standard
06/02/2015 13:09	< 1 counts/100mL	<=0, P	Microbiological Standard
06/16/2015 12:48	< 1 counts/100mL	<=0, P	Microbiological Standard
06/25/2015 13:10	< 1 counts/100mL	<=0, P	Microbiological Standard
06/30/2015 13:12	< 1 counts/100mL	<=0, P	Microbiological Standard
07/14/2015 13:10	< 1 counts/100mL	<=0, P	Microbiological Standard
07/27/2015 13:41	< 1 counts/100mL	<=0, P	Microbiological Standard
08/04/2015 13:04	< 1 counts/100mL	<=0, P	Microbiological Standard
08/11/2015 13:08	< 1 counts/100mL	<=0, P	Microbiological Standard
08/18/2015 13:10	< 1 counts/100mL	<=0, P	Microbiological Standard
09/15/2015 12:53	< 1 counts/100mL	<=0, P	Microbiological Standard
09/17/2015 11:36	< 1 counts/100mL	<=0, P	Microbiological Standard
09/29/2015 13:04	< 1 counts/100mL	<=0, P	Microbiological Standard
10/09/2015 13:35	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		**Criteria**	
10/27/2015 12:52	< 1 counts/100mL	<=0, P	Microbiological Standard
11/10/2015 13:09	< 1 counts/100mL	<=0, P	Microbiological Standard
11/24/2015 13:17	< 1 counts/100mL	<=0, P	Microbiological Standard
12/08/2015 10:20	< 1 counts/100mL	<=0, P	Microbiological Standard
12/22/2015 10:15	< 1 counts/100mL	<=0, P	Microbiological Standard

# samples:	32	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	32	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

pH		**Criteria**
02/12/2015 11:38	7.75	
06/25/2015 13:10	7.70	
09/17/2015 11:36	7.77	

# samples:	3	**min:**	7.70
# detects:	3	**max:**	7.77
# non-detects:	0	**avg:**	7.740 (based on 3 numerical results)
# of Exceedences:	0		

Total Coliforms (counts)		**Criteria**	
01/13/2015 12:39	< 1 counts/100mL	<=10	User-Defined
01/22/2015 08:48	< 1 counts/100mL	<=10	User-Defined
01/27/2015 13:20	ND counts/100mL	<=10	User-Defined
02/03/2015 13:03	< 1 counts/100mL	<=10	User-Defined
02/12/2015 11:38	< 1 counts/100mL	<=10	User-Defined
02/16/2015 13:17	< 1 counts/100mL	<=10	User-Defined
03/03/2015 12:39	< 1 counts/100mL	<=10	User-Defined
03/16/2015 12:02	< 1 counts/100mL	<=10	User-Defined
03/31/2015 12:42	< 1 counts/100mL	<=10	User-Defined
04/07/2015 13:40	< 1 counts/100mL	<=10	User-Defined
04/14/2015 13:17	< 1 counts/100mL	<=10	User-Defined
04/27/2015 13:58	< 1 counts/100mL	<=10	User-Defined
05/05/2015 13:16	< 1 counts/100mL	<=10	User-Defined
05/19/2015 13:11	< 1 counts/100mL	<=10	User-Defined

Total Coliforms (counts)		**Criteria**	
06/02/2015 13:09	< 1 counts/100mL	<=10	User-Defined
06/16/2015 12:48	< 1 counts/100mL	<=10	User-Defined
06/25/2015 13:10	< 1 counts/100mL	<=10	User-Defined
06/30/2015 13:12	< 1 counts/100mL	<=10	User-Defined
07/14/2015 13:10	< 1 counts/100mL	<=10	User-Defined
07/27/2015 13:41	< 1 counts/100mL	<=10	User-Defined
08/04/2015 13:04	< 1 counts/100mL	<=10	User-Defined
08/11/2015 13:08	< 1 counts/100mL	<=10	User-Defined
08/18/2015 13:10	< 1 counts/100mL	<=10	User-Defined
09/15/2015 12:53	< 1 counts/100mL	<=10	User-Defined
09/17/2015 11:36	< 1 counts/100mL	<=10	User-Defined
09/29/2015 13:04	< 1 counts/100mL	<=10	User-Defined
10/09/2015 13:35	< 1 counts/100mL	<=10	User-Defined
10/27/2015 12:52	< 1 counts/100mL	<=10	User-Defined
11/10/2015 13:09	< 1 counts/100mL	<=10	User-Defined
11/24/2015 13:17	< 1 counts/100mL	<=10	User-Defined
12/08/2015 10:20	< 1 counts/100mL	<=10	User-Defined
12/22/2015 10:15	< 1 counts/100mL	<=10	User-Defined

# samples:	32	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	32	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Turbidity		**Criteria**	
01/06/2015 12:59	0.37 NTU	<=5	User-Defined
01/07/2015 14:20	0.46 NTU	<=5	User-Defined
01/09/2015 12:00	0.37 NTU	<=5	User-Defined
01/13/2015 12:39	0.33 NTU	<=5	User-Defined
01/15/2015 12:30	0.56 NTU	<=5	User-Defined
01/19/2015 11:00	0.40 NTU	<=5	User-Defined
01/20/2015 11:44	0.30 NTU	<=5	User-Defined
01/21/2015 13:25	0.30 NTU	<=5	User-Defined
01/22/2015 11:30	0.34 NTU	<=5	User-Defined
02/02/2015 13:35	0.61 NTU	<=5	User-Defined
02/03/2015 13:03	0.28 NTU	<=5	User-Defined
02/06/2015 11:11	0.27 NTU	<=5	User-Defined
02/12/2015 11:38	0.3 NTU	<=5	User-Defined
02/13/2015 12:15	0.45 NTU	<=5	User-Defined
02/16/2015 13:17	0.50 NTU	<=5	User-Defined

Turbidity		Criteria	
02/18/2015 13:20	0.69 NTU	<=5	User-Defined
02/23/2015 13:15	0.95 NTU	<=5	User-Defined
02/24/2015 12:30	0.46 NTU	<=5	User-Defined
03/03/2015 12:39	0.36 NTU	<=5	User-Defined
03/16/2015 12:02	0.51 NTU	<=5	User-Defined
03/24/2015 13:04	0.6 NTU	<=5	User-Defined
03/31/2015 12:42	0.23 NTU	<=5	User-Defined
04/07/2015 13:55	0.28 NTU	<=5	User-Defined
04/14/2015 13:17	0.35 NTU	<=5	User-Defined
04/21/2015 12:47	0.21 NTU	<=5	User-Defined
04/27/2015 13:58	0.42 NTU	<=5	User-Defined
05/05/2015 13:16	0.31 NTU	<=5	User-Defined
05/12/2015 12:55	0.32 NTU	<=5	User-Defined
05/19/2015 13:11	0.49 NTU	<=5	User-Defined
05/26/2015 12:59	0.24 NTU	<=5	User-Defined
06/02/2015 13:04	0.68 NTU	<=5	User-Defined
06/09/2015 12:57	0.34 NTU	<=5	User-Defined
06/16/2015 12:48	0.39 NTU	<=5	User-Defined
06/22/2015 12:30	0.28 NTU	<=5	User-Defined
06/25/2015 13:10	0.3 NTU	<=5	User-Defined
07/07/2015 13:43	0.31 NTU	<=5	User-Defined
07/14/2015 13:06	0.31 NTU	<=5	User-Defined
07/21/2015 14:09	0.46 NTU	<=5	User-Defined
07/27/2015 13:41	0.30 NTU	<=5	User-Defined
08/03/2015 13:04	0.27 NTU	<=5	User-Defined
08/11/2015 13:15	0.43 NTU	<=5	User-Defined
08/18/2015 13:10	0.40 NTU	<=5	User-Defined
08/25/2015 12:53	0.46 NTU	<=5	User-Defined
09/01/2015 12:53	0.19 NTU	<=5	User-Defined
09/08/2015 14:00	0.19 NTU	<=5	User-Defined
09/15/2015 12:53	0.44 NTU	<=5	User-Defined
09/17/2015 11:36	0.2 NTU	<=5	User-Defined
09/29/2015 13:04	0.29 NTU	<=5	User-Defined
10/06/2015 12:00	0.23 NTU	<=5	User-Defined
10/13/2015 12:59	0.63 NTU	<=5	User-Defined
10/19/2015 12:56	0.20 NTU	<=5	User-Defined
11/03/2015 12:30	0.32 NTU	<=5	User-Defined
11/11/2015 13:09	0.40 NTU	<=5	User-Defined
11/17/2015 10:15	0.20 NTU	<=5	User-Defined

Turbidity		**Criteria**	
11/24/2015 13:17	0.34 NTU	<=5	User-Defined
12/08/2015 10:20	0.24 NTU	<=5	User-Defined
12/15/2015 09:13	0.27 NTU	<=5	User-Defined
12/22/2015 10:15	0.26 NTU	<=5	User-Defined
12/29/2015 11:27	0.24 NTU	<=5	User-Defined

# samples:	59	**min:**	0.19 NTU
# detects:	59	**max:**	0.95 NTU
# non-detects:	0	**avg:**	0.370 NTU (based on 59 numerical results)
# of Exceedences:	0	**95th percentile:**	0.680 NTU

Facility: Wells; Ellison Well -Treated
Sampling Point: Ellison Well Treated (45-1-EP, 2897C)

Chlorine (free)		**Criteria**	
01/13/2015	1.12 mg/L	>=0.05	WaterTrax Suggested
01/19/2015 10:25	1.11 mg/L	>=0.05	WaterTrax Suggested
01/22/2015 10:30	0.84 mg/L	>=0.05	WaterTrax Suggested
02/02/2015 12:00	0.82 mg/L	>=0.05	WaterTrax Suggested
02/04/2015 12:30	0.84 mg/L	>=0.05	WaterTrax Suggested
02/12/2015 08:22	0.83 mg/L	>=0.05	WaterTrax Suggested
07/07/2015 11:28	1.97 mg/L	>=0.05	WaterTrax Suggested
09/01/2015 11:11	2.11 mg/L	>=0.05	WaterTrax Suggested

# samples:	8	**min:**	0.82 mg/L
# detects:	8	**max:**	2.11 mg/L
# non-detects:	0	**avg:**	1.205 mg/L (based on 8 numerical results)
# of Exceedences:	0		

Color (apparent)		**Criteria**	
*** 07/07/2015 11:28**	**41 ACU**	**<=35**	**User-Defined**

# samples:	1	**min:**	41 ACU

# detects:	1	**max:**	41 ACU
# non-detects:	0	**avg:**	41.000 ACU (based on 1 numerical results)
# of Exceedences:	1		

Escherichia coli / E. coli (counts)		**Criteria**	
06/30/2015 10:49	< 1 counts/100mL	<=0, P	Microbiological Standard
07/14/2015 11:03	< 1 counts/100mL	<=0, P	Microbiological Standard

# samples:	2	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	2	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Total Coliforms (counts)		**Criteria**	
06/30/2015 10:49	< 1 counts/100mL	<=10	User-Defined
07/14/2015 11:03	< 1 counts/100mL	<=10	User-Defined

# samples:	2	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	2	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

Turbidity		**Criteria**	
07/07/2015 11:28	0.63 NTU	<=5	User-Defined

# samples:	1	**min:**	0.63 NTU
# detects:	1	**max:**	0.63 NTU
# non-detects:	0	**avg:**	0.630 NTU (based on 1 numerical results)
# of Exceedences:	0	**95th percentile:**	0.630 NTU

Result Legend:

P=present, A=absent, PR=presumptive, ND=non-detect, U=non-detect, OR=over-range, OG=overgrown,
TNTC=too numerous to count, NR=no result, NT=not tested, IG=ignore, ER=external report, SC=see comment

< means less than lower detection limit shown
> means greater than upper detection limit shown
« means detected & less than number shown
» means detected & greater than number shown

*** Indicates Criteria is exceeded**

Facility: Pumpstations
Sampling Point: Dewdney Pumpstation (1-1-EP, E932)

Chlorine (free)		Criteria	
01/05/2015 12:20	3.12 mg/L	>=0.05	WaterTrax Suggested
01/07/2015 11:00	3.22 mg/L	>=0.05	WaterTrax Suggested
01/09/2015 09:00	2.55 mg/L	>=0.05	WaterTrax Suggested
01/13/2015 09:14	3.39 mg/L	>=0.05	WaterTrax Suggested
01/15/2015 10:20	3.51 mg/L	>=0.05	WaterTrax Suggested
01/19/2015 09:10	2.55 mg/L	>=0.05	WaterTrax Suggested
01/21/2015 09:35	2.84 mg/L	>=0.05	WaterTrax Suggested
01/22/2015 08:51	2.68 mg/L	>=0.05	WaterTrax Suggested
02/02/2015 10:25	2.80 mg/L	>=0.05	WaterTrax Suggested
02/03/2015 09:47	3.17 mg/L	>=0.05	WaterTrax Suggested
02/04/2015 11:30	2.83 mg/L	>=0.05	WaterTrax Suggested
02/05/2015 10:45	2.22 mg/L	>=0.05	WaterTrax Suggested
02/06/2015 09:06	2.54 mg/L	>=0.05	WaterTrax Suggested
02/11/2015 09:50	2.04 mg/L	>=0.05	WaterTrax Suggested
02/18/2015 10:30	2.27 mg/L	>=0.05	WaterTrax Suggested
03/03/2015 09:31	3.13 mg/L	>=0.05	WaterTrax Suggested
03/10/2015 09:54	2.48 mg/L	>=0.05	WaterTrax Suggested
03/16/2015 09:30	3.50 mg/L	>=0.05	WaterTrax Suggested
03/24/2015 09:03	2.66 mg/L	>=0.05	WaterTrax Suggested
03/31/2015 09:30	3.29 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
04/14/2015 08:30	3.35 mg/L	>=0.05	WaterTrax Suggested
04/21/2015 09:23	2.57 mg/L	>=0.05	WaterTrax Suggested
04/27/2015 09:35	3.49 mg/L	>=0.05	WaterTrax Suggested
05/05/2015 09:49	3.29 mg/L	>=0.05	WaterTrax Suggested
05/12/2015 09:10	3.08 mg/L	>=0.05	WaterTrax Suggested
05/19/2015 10:00	3.09 mg/L	>=0.05	WaterTrax Suggested
05/26/2015 09:20	2.45 mg/L	>=0.05	WaterTrax Suggested
06/09/2015 09:03	3.24 mg/L	>=0.05	WaterTrax Suggested
06/16/2015 09:32	2.84 mg/L	>=0.05	WaterTrax Suggested
06/22/2015 09:06	2.77 mg/L	>=0.05	WaterTrax Suggested
06/30/2015 08:43	3.03 mg/L	>=0.05	WaterTrax Suggested
07/07/2015 09:35	3.14 mg/L	>=0.05	WaterTrax Suggested
07/14/2015 09:25	2.98 mg/L	>=0.05	WaterTrax Suggested
07/21/2015 09:22	2.90 mg/L	>=0.05	WaterTrax Suggested
07/27/2015 10:15	2.46 mg/L	>=0.05	WaterTrax Suggested
08/03/2015 09:28	2.99 mg/L	>=0.05	WaterTrax Suggested
08/11/2015 09:56	2.69 mg/L	>=0.05	WaterTrax Suggested
08/18/2015 09:25	2.93 mg/L	>=0.05	WaterTrax Suggested
08/25/2015 09:11	2.87 mg/L	>=0.05	WaterTrax Suggested
09/01/2015 10:18	2.59 mg/L	>=0.05	WaterTrax Suggested
09/08/2015 10:07	2.74 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
09/15/2015 09:28	3.00 mg/L	>=0.05	WaterTrax Suggested
09/29/2015 09:41	2.95 mg/L	>=0.05	WaterTrax Suggested
10/06/2015 09:50	1.71 mg/L	>=0.05	WaterTrax Suggested
10/13/2015 09:37	4.09 mg/L	>=0.05	WaterTrax Suggested
10/19/2015 09:05	2.38 mg/L	>=0.05	WaterTrax Suggested
10/27/2015 09:20	2.12 mg/L	>=0.05	WaterTrax Suggested
11/03/2015 09:22	3.67 mg/L	>=0.05	WaterTrax Suggested
11/10/2015 09:40	3.92 mg/L	>=0.05	WaterTrax Suggested
11/16/2015 10:20	2.73 mg/L	>=0.05	WaterTrax Suggested
11/30/2015 09:57	4.11 mg/L	>=0.05	WaterTrax Suggested
12/07/2015	3.51 mg/L	>=0.05	WaterTrax Suggested
12/14/2015	3.52 mg/L	>=0.05	WaterTrax Suggested
12/21/2015	3.55 mg/L	>=0.05	WaterTrax Suggested

# samples:	54	**min:**	1.71 mg/L
# detects:	54	**max:**	4.11 mg/L
# non-detects:	0	**avg:**	2.954 mg/L (based on 54 numerical results)
# of Exceedences:	0		

Color (apparent)		**Criteria**	
01/13/2015 09:14	2 ACU	<=15	User-Defined
02/03/2015 09:47	2 ACU	<=15	User-Defined
03/03/2015 09:31	10 ACU	<=15	User-Defined
*** 03/10/2015 09:54**	**16 ACU**	**<=15**	**User-Defined**
03/16/2015 09:30	6 ACU	<=15	User-Defined
03/24/2015 09:03	14 ACU	<=15	User-Defined
03/31/2015 09:30	14 ACU	<=15	User-Defined
04/14/2015 08:30	1 ACU	<=15	User-Defined

Color (apparent)		**Criteria**	
04/21/2015 09:23	2 ACU	<=15	User-Defined
04/27/2015 09:35	3 ACU	<=15	User-Defined
05/05/2015 09:49	1 ACU	<=15	User-Defined
05/12/2015 09:10	3 ACU	<=15	User-Defined
05/19/2015 10:00	2 ACU	<=15	User-Defined
05/26/2015 09:20	10 ACU	<=15	User-Defined
06/02/2015 09:13	12 ACU	<=15	User-Defined
06/09/2015 09:03	14 ACU	<=15	User-Defined
06/16/2015 09:32	5 ACU	<=15	User-Defined
06/22/2015 09:06	8 ACU	<=15	User-Defined
07/07/2015 09:35	8 ACU	<=15	User-Defined
*** 07/14/2015 09:25**	**19 ACU**	**<=15**	**User-Defined**
*** 07/21/2015 09:22**	**17 ACU**	**<=15**	**User-Defined**
07/27/2015 10:15	7 ACU	<=15	User-Defined
08/03/2015 09:28	11 ACU	<=15	User-Defined
08/11/2015 09:56	7 ACU	<=15	User-Defined
08/18/2015 09:25	2 ACU	<=15	User-Defined
08/25/2015 09:11	8 ACU	<=15	User-Defined
09/08/2015 10:07	14 ACU	<=15	User-Defined
09/15/2015 09:28	6 ACU	<=15	User-Defined
09/29/2015 09:41	4 ACU	<=15	User-Defined
10/06/2015 09:50	11 ACU	<=15	User-Defined
10/13/2015 09:37	12 ACU	<=15	User-Defined
10/19/2015 09:05	14 ACU	<=15	User-Defined
11/10/2015 09:40	11 ACU	<=15	User-Defined
11/16/2015 10:20	11 ACU	<=15	User-Defined
11/30/2015 09:57	7 ACU	<=15	User-Defined
12/07/2015	10 ACU	<=15	User-Defined
12/14/2015	8 ACU	<=15	User-Defined
12/21/2015	9 ACU	<=15	User-Defined

# samples:	38	**min:**	1 ACU
# detects:	38	**max:**	19 ACU
# non-detects:	0	**avg:**	8.447 ACU (based on 38 numerical results)
# of Exceedences:	3		

Escherichia coli / E. coli (counts)		Criteria	
01/13/2015 09:14	< 1 counts/100mL	<=0, P	Microbiological Standard
01/27/2015 10:50	ND counts/100mL	<=0, P	Microbiological Standard
02/03/2015 09:46	< 1 counts/100mL	<=0, P	Microbiological Standard
03/03/2015 09:31	< 1 counts/100mL	<=0, P	Microbiological Standard
03/16/2015 09:30	< 1 counts/100mL	<=0, P	Microbiological Standard
03/31/2015 09:30	< 1 counts/100mL	<=0, P	Microbiological Standard
04/14/2015 08:29	< 1 counts/100mL	<=0, P	Microbiological Standard
04/21/2015 09:23	< 1 counts/100mL	<=0, P	Microbiological Standard
05/05/2015 09:49	< 1 counts/100mL	<=0, P	Microbiological Standard
05/19/2015 10:00	< 1 counts/100mL	<=0, P	Microbiological Standard
06/02/2015 09:15	< 1 counts/100mL	<=0, P	Microbiological Standard
06/16/2015 09:52	< 1 counts/100mL	<=0, P	Microbiological Standard
06/30/2015 08:43	< 1 counts/100mL	<=0, P	Microbiological Standard
07/14/2015 09:25	< 1 counts/100mL	<=0, P	Microbiological Standard
07/27/2015 10:15	< 1 counts/100mL	<=0, P	Microbiological Standard
08/04/2015 08:27	< 1 counts/100mL	<=0, P	Microbiological Standard
08/18/2015 09:26	< 1 counts/100mL	<=0, P	Microbiological Standard
09/01/2015 10:18	< 1 counts/100mL	<=0, P	Microbiological Standard
09/15/2015 09:31	< 1 counts/100mL	<=0, P	Microbiological Standard
09/29/2015 09:41	< 1 counts/100mL	<=0, P	Microbiological Standard
10/13/2015 09:37	< 1 counts/100mL	<=0, P	Microbiological Standard

WaterTrax

Escherichia coli / E. coli (counts)		**Criteria**	
10/27/2015 09:15	< 1 counts/100mL	<=0, P	Microbiological Standard
11/10/2015 09:40	< 1 counts/100mL	<=0, P	Microbiological Standard
11/23/2015 10:28	< 1 counts/100mL	<=0, P	Microbiological Standard
12/07/2015 10:45	< 1 counts/100mL	<=0, P	Microbiological Standard
12/21/2015 10:30	< 1 counts/100mL	<=0, P	Microbiological Standard

# samples:	26	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	26	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

pH		**Criteria**
01/13/2015 09:14	6.73	
02/03/2015 09:47	6.83	
02/24/2015 11:43	6.83	
03/03/2015 09:31	6.82	
03/10/2015 09:54	6.80	
03/16/2015 09:30	7.10	
03/24/2015 09:03	7.03	
03/31/2015 09:30	7.02	
04/21/2015 09:23	6.5	
04/27/2015 09:35	7.08	
05/05/2015 09:49	7.83	
05/19/2015 10:00	8.34	
05/26/2015 09:20	8.33	
06/02/2015 09:13	8.30	
06/09/2015 09:03	8.39	
06/16/2015 09:32	8.33	
06/22/2015 09:06	8.44	
07/07/2015 09:35	8.38	
07/14/2015 09:25	8.46	
07/21/2015 09:22	8.45	
07/27/2015 10:15	8.15	
08/03/2015 09:28	8.37	
08/11/2015 09:56	8.41	
08/18/2015 09:25	8.5	

pH		**Criteria**	
08/25/2015 09:11	8.32		
09/08/2015 10:07	8.39		
09/15/2015 09:28	8.46		
09/29/2015 09:41	8.35		
10/13/2015 09:37	8.23		
10/27/2015 09:20	8.35		
11/03/2015 09:22	8.37		
11/10/2015 09:40	8.29		
11/30/2015 09:57	7.76		
12/07/2015	7.77		
12/14/2015	7.49		
12/21/2015	8.2		

# samples:	36	**min:**	6.5
# detects:	36	**max:**	8.5
# non-detects:	0	**avg:**	7.872 (based on 36 numerical results)
# of Exceedences:	0		

Total Coliforms (counts)		**Criteria**	
01/13/2015 09:14	< 1 counts/100mL	<=10	User-Defined
01/27/2015 10:50	ND counts/100mL	<=10	User-Defined
02/03/2015 09:46	< 1 counts/100mL	<=10	User-Defined
03/03/2015 09:31	< 1 counts/100mL	<=10	User-Defined
03/16/2015 09:30	< 1 counts/100mL	<=10	User-Defined
03/31/2015 09:30	< 1 counts/100mL	<=10	User-Defined
04/14/2015 08:29	< 1 counts/100mL	<=10	User-Defined
04/21/2015 09:23	< 1 counts/100mL	<=10	User-Defined
05/05/2015 09:49	< 1 counts/100mL	<=10	User-Defined
05/19/2015 10:00	< 1 counts/100mL	<=10	User-Defined
06/02/2015 09:15	< 1 counts/100mL	<=10	User-Defined
06/16/2015 09:52	< 1 counts/100mL	<=10	User-Defined
06/30/2015 08:43	< 1 counts/100mL	<=10	User-Defined
07/14/2015 09:25	< 1 counts/100mL	<=10	User-Defined
07/27/2015 10:15	< 1 counts/100mL	<=10	User-Defined
08/04/2015 08:27	< 1 counts/100mL	<=10	User-Defined
08/18/2015 09:26	1 counts/100mL	<=10	User-Defined
09/01/2015 10:18	< 1 counts/100mL	<=10	User-Defined
09/15/2015 09:31	< 1 counts/100mL	<=10	User-Defined
09/29/2015 09:41	< 1 counts/100mL	<=10	User-Defined
10/13/2015 09:37	< 1 counts/100mL	<=10	User-Defined

Total Coliforms (counts)		**Criteria**	
10/27/2015 09:15	< 1 counts/100mL	<=10	User-Defined
11/10/2015 09:40	< 1 counts/100mL	<=10	User-Defined
11/23/2015 10:28	< 1 counts/100mL	<=10	User-Defined
12/07/2015 10:45	1 counts/100mL	<=10	User-Defined
12/21/2015 10:30	< 1 counts/100mL	<=10	User-Defined

# samples:	26	**min:**	< 1 counts/100mL
# detects:	2	**max:**	1 counts/100mL
# non-detects:	24	**Geometric Mean:**	1.000 counts/100mL (based on 2 numerical results)
# of Exceedences:	0		

Turbidity		**Criteria**	
01/13/2015 09:14	0.40 NTU	<=5	User-Defined
02/03/2015 09:47	0.33 NTU	<=5	User-Defined
03/03/2015 09:31	0.55 NTU	<=5	User-Defined
03/10/2015 09:54	0.62 NTU	<=5	User-Defined
03/16/2015 09:30	0.72 NTU	<=5	User-Defined
03/24/2015 09:03	0.63 NTU	<=5	User-Defined
03/31/2015 09:30	0.68 NTU	<=5	User-Defined
04/14/2015 08:30	0.40 NTU	<=5	User-Defined
04/21/2015 09:23	0.44 NTU	<=5	User-Defined
04/27/2015 09:35	0.55 NTU	<=5	User-Defined
05/05/2015 09:49	0.66 NTU	<=5	User-Defined
05/12/2015 09:10	0.52 NTU	<=5	User-Defined
05/19/2015 10:00	0.56 NTU	<=5	User-Defined
05/26/2015 09:20	0.41 NTU	<=5	User-Defined
06/02/2015 09:13	0.54 NTU	<=5	User-Defined
06/09/2015 09:03	0.53 NTU	<=5	User-Defined
06/16/2015 09:32	0.40 NTU	<=5	User-Defined
06/22/2015 09:06	0.44 NTU	<=5	User-Defined
07/07/2015 09:35	0.55 NTU	<=5	User-Defined
07/14/2015 09:25	0.88 NTU	<=5	User-Defined
07/21/2015 09:22	0.93 NTU	<=5	User-Defined
07/27/2015 10:15	0.53 NTU	<=5	User-Defined
08/03/2015 09:28	0.82 NTU	<=5	User-Defined
08/11/2015 09:56	0.48 NTU	<=5	User-Defined
08/18/2015 09:25	0.51 NTU	<=5	User-Defined
08/25/2015 09:11	0.50 NTU	<=5	User-Defined
09/08/2015 10:07	0.68 NTU	<=5	User-Defined
09/15/2015 09:28	0.62 NTU	<=5	User-Defined

Turbidity		**Criteria**	
09/29/2015 09:41	0.50 NTU	<=5	User-Defined
10/06/2015 09:50	0.61 NTU	<=5	User-Defined
10/13/2015 09:37	0.57 NTU	<=5	User-Defined
10/19/2015 09:05	0.65 NTU	<=5	User-Defined
10/27/2015 09:20	0.84 NTU	<=5	User-Defined
11/03/2015 09:22	0.36 NTU	<=5	User-Defined
11/10/2015 09:40	0.34 NTU	<=5	User-Defined
11/16/2015 10:20	0.60 NTU	<=5	User-Defined
11/30/2015 09:57	0.55 NTU	<=5	User-Defined
12/07/2015	0.43 NTU	<=5	User-Defined
12/14/2015	0.44 NTU	<=5	User-Defined
12/21/2015	0.37 NTU	<=5	User-Defined

# samples:	40	**min:**	0.33 NTU
# detects:	40	**max:**	0.93 NTU
# non-detects:	0	**avg:**	0.554 NTU (based on 40 numerical results)
# of Exceedences:	0	**95th percentile:**	0.878 NTU

Facility: Reservoirs
Sampling Point: Arthur Ct. Reservoir (2-1-MD, E931)

Chlorine (free)		**Criteria**	
01/05/2015 12:00	1.97 mg/L	>=0.05	WaterTrax Suggested
01/06/2015 09:44	2.12 mg/L	>=0.05	WaterTrax Suggested
01/07/2015 10:35	2.17 mg/L	>=0.05	WaterTrax Suggested
01/09/2015 08:41	1.98 mg/L	>=0.05	WaterTrax Suggested
01/13/2015 09:37	2.20 mg/L	>=0.05	WaterTrax Suggested
01/15/2015 09:45	2.10 mg/L	>=0.05	WaterTrax Suggested
01/19/2015 08:50	1.89 mg/L	>=0.05	WaterTrax Suggested
01/21/2015 09:15	2.08 mg/L	>=0.05	WaterTrax Suggested
01/22/2015 08:34	2.17 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
02/02/2015 09:40	1.95 mg/L	>=0.05	WaterTrax Suggested
02/03/2015 10:23	1.76 mg/L	>=0.05	WaterTrax Suggested
02/04/2015 10:55	1.96 mg/L	>=0.05	WaterTrax Suggested
02/05/2015 10:30	1.70 mg/L	>=0.05	WaterTrax Suggested
02/06/2015 08:53	1.69 mg/L	>=0.05	WaterTrax Suggested
02/11/2015 09:40	1.58 mg/L	>=0.05	WaterTrax Suggested
02/12/2015 11:50	1.52 mg/L	>=0.05	WaterTrax Suggested
02/13/2015 09:35	1.80 mg/L	>=0.05	WaterTrax Suggested
02/16/2015 09:44	1.59 mg/L	>=0.05	WaterTrax Suggested
02/18/2015 10:20	1.53 mg/L	>=0.05	WaterTrax Suggested
02/23/2015 09:50	1.30 mg/L	>=0.05	WaterTrax Suggested
02/24/2015 08:50	1.68 mg/L	>=0.05	WaterTrax Suggested
03/03/2015 09:53	1.85 mg/L	>=0.05	WaterTrax Suggested
03/10/2015 10:41	1.81 mg/L	>=0.05	WaterTrax Suggested
03/16/2015 10:25	1.81 mg/L	>=0.05	WaterTrax Suggested
03/24/2015 08:29	1.80 mg/L	>=0.05	WaterTrax Suggested
03/31/2015 09:47	1.78 mg/L	>=0.05	WaterTrax Suggested
04/07/2015	1.80 mg/L	>=0.05	WaterTrax Suggested
04/14/2015 08:52	1.80 mg/L	>=0.05	WaterTrax Suggested
04/21/2015 09:44	2.5 mg/L	>=0.05	WaterTrax Suggested
04/27/2015 09:52	2.23 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		Criteria	
05/05/2015 10:23	2.06 mg/L	>=0.05	WaterTrax Suggested
05/12/2015 09:47	2.06 mg/L	>=0.05	WaterTrax Suggested
05/19/2015 10:39	1.96 mg/L	>=0.05	WaterTrax Suggested
05/26/2015 09:44	1.83 mg/L	>=0.05	WaterTrax Suggested
06/02/2015 09:35	1.97 mg/L	>=0.05	WaterTrax Suggested
06/09/2015 09:26	2.07 mg/L	>=0.05	WaterTrax Suggested
06/16/2015 09:54	2.17 mg/L	>=0.05	WaterTrax Suggested
06/22/2015 09:22	1.75 mg/L	>=0.05	WaterTrax Suggested
06/30/2015 08:59	1.85 mg/L	>=0.05	WaterTrax Suggested
07/07/2015 10:00	2.07 mg/L	>=0.05	WaterTrax Suggested
07/14/2015 09:41	1.83 mg/L	>=0.05	WaterTrax Suggested
07/21/2015 09:38	1.92 mg/L	>=0.05	WaterTrax Suggested
07/27/2015 10:48	2.01 mg/L	>=0.05	WaterTrax Suggested
08/03/2015 09:50	1.84 mg/L	>=0.05	WaterTrax Suggested
08/11/2015 10:29	2.08 mg/L	>=0.05	WaterTrax Suggested
08/18/2015 09:46	2.09 mg/L	>=0.05	WaterTrax Suggested
08/25/2015 09:30	1.84 mg/L	>=0.05	WaterTrax Suggested
09/01/2015 09:50	1.85 mg/L	>=0.05	WaterTrax Suggested
09/08/2015 10:39	2.77 mg/L	>=0.05	WaterTrax Suggested
09/15/2015 09:48	1.95 mg/L	>=0.05	WaterTrax Suggested
09/29/2015 09:56	1.84 mg/L	>=0.05	WaterTrax Suggested

Chlorine (free)		**Criteria**	
10/06/2015 10:35	1.41 mg/L	>=0.05	WaterTrax Suggested
10/13/2015 10:15	1.84 mg/L	>=0.05	WaterTrax Suggested
10/19/2015 09:35	1.48 mg/L	>=0.05	WaterTrax Suggested
10/27/2015 09:35	1.32 mg/L	>=0.05	WaterTrax Suggested
11/03/2015 09:00	1.69 mg/L	>=0.05	WaterTrax Suggested
11/10/2015 09:58	1.20 mg/L	>=0.05	WaterTrax Suggested
11/16/2015 10:53	1.53 mg/L	>=0.05	WaterTrax Suggested
11/30/2015 10:30	1.44 mg/L	>=0.05	WaterTrax Suggested
12/07/2015	1.94 mg/L	>=0.05	WaterTrax Suggested
12/14/2015	1.47 mg/L	>=0.05	WaterTrax Suggested
12/21/2015	1.55 mg/L	>=0.05	WaterTrax Suggested
12/29/2015	1.50 mg/L	>=0.05	WaterTrax Suggested

# samples:	63	**min:**	1.20 mg/L
# detects:	63	**max:**	2.77 mg/L
# non-detects:	0	**avg:**	1.846 mg/L (based on 63 numerical results)
# of Exceedences:	0		

Color (apparent)		**Criteria**	
01/06/2015 09:44	9 ACU	<=15	User-Defined
*** 01/07/2015 10:35**	**16 ACU**	**<=15**	**User-Defined**
01/09/2015 08:41	8 ACU	<=15	User-Defined
01/13/2015 09:37	2 ACU	<=15	User-Defined
01/15/2015 09:45	1 ACU	<=15	User-Defined
01/19/2015 08:50	10 ACU	<=15	User-Defined
01/21/2015 09:15	0 ACU	<=15	User-Defined
01/22/2015 08:34	2 ACU	<=15	User-Defined
02/02/2015 09:40	0 ACU	<=15	User-Defined
02/03/2015 10:23	3 ACU	<=15	User-Defined

Color (apparent)		**Criteria**	
02/06/2015 08:53	5 ACU	<=15	User-Defined
02/13/2015 09:35	3 ACU	<=15	User-Defined
02/16/2015 09:44	8 ACU	<=15	User-Defined
02/18/2015 10:20	3 ACU	<=15	User-Defined
02/23/2015 09:50	0 ACU	<=15	User-Defined
*** 02/24/2015 08:50**	**17 ACU**	**<=15**	**User-Defined**
03/03/2015 09:53	1 ACU	<=15	User-Defined
03/10/2015 10:41	3 ACU	<=15	User-Defined
03/16/2015 10:25	8 ACU	<=15	User-Defined
03/24/2015 08:29	2 ACU	<=15	User-Defined
03/31/2015 09:47	8 ACU	<=15	User-Defined
04/07/2015	0 ACU	<=15	User-Defined
04/14/2015 08:52	0 ACU	<=15	User-Defined
04/21/2015 09:44	0 ACU	<=15	User-Defined
04/27/2015 09:52	0 ACU	<=15	User-Defined
05/05/2015 10:23	0 ACU	<=15	User-Defined
05/12/2015 09:47	3 ACU	<=15	User-Defined
05/19/2015 10:39	9 ACU	<=15	User-Defined
05/26/2015 09:44	2 ACU	<=15	User-Defined
06/02/2015 09:35	3 ACU	<=15	User-Defined
06/09/2015 09:26	1 ACU	<=15	User-Defined
06/16/2015 09:54	5 ACU	<=15	User-Defined
06/22/2015 09:22	0 ACU	<=15	User-Defined
07/07/2015 10:00	0 ACU	<=15	User-Defined
*** 07/14/2015 09:41**	**19 ACU**	**<=15**	**User-Defined**
07/21/2015 09:38	8 ACU	<=15	User-Defined
07/27/2015 10:48	5 ACU	<=15	User-Defined
08/03/2015 09:50	11 ACU	<=15	User-Defined
*** 08/11/2015 10:29**	**17 ACU**	**<=15**	**User-Defined**
08/18/2015 09:46	7 ACU	<=15	User-Defined
08/25/2015 09:30	15 ACU	<=15	User-Defined
09/01/2015 09:50	14 ACU	<=15	User-Defined
09/08/2015 10:39	7 ACU	<=15	User-Defined
09/15/2015 09:48	9 ACU	<=15	User-Defined
09/29/2015 09:56	4 ACU	<=15	User-Defined
10/06/2015 10:35	12 ACU	<=15	User-Defined

Color (apparent)		Criteria	
*** 10/13/2015 10:15**	**17 ACU**	**<=15**	**User-Defined**
10/19/2015 09:35	12 ACU	<=15	User-Defined
11/10/2015 09:58	9 ACU	<=15	User-Defined
11/16/2015 10:53	5 ACU	<=15	User-Defined
11/30/2015 10:30	1 ACU	<=15	User-Defined
12/07/2015	12 ACU	<=15	User-Defined
12/14/2015	12 ACU	<=15	User-Defined
12/21/2015	2 ACU	<=15	User-Defined
12/29/2015	8 ACU	<=15	User-Defined

# samples:	55	**min:**	0 ACU
# detects:	55	**max:**	19 ACU
# non-detects:	0	**avg:**	6.145 ACU (based on 55 numerical results)
# of Exceedences:	5		

Escherichia coli / E. coli (counts)		Criteria	
01/06/2015 09:44	< 1 counts/100mL	<=0, P	Microbiological Standard
01/13/2015 09:37	< 1 counts/100mL	<=0, P	Microbiological Standard
01/20/2015 09:25	< 1 counts/100mL	<=0, P	Microbiological Standard
01/27/2015 10:30	ND counts/100mL	<=0, P	Microbiological Standard
02/03/2015 10:23	< 1 counts/100mL	<=0, P	Microbiological Standard
02/10/2015 09:39	< 1 counts/100mL	<=0, P	Microbiological Standard
02/16/2015 09:44	< 1 counts/100mL	<=0, P	Microbiological Standard
02/24/2015 11:29	< 1 counts/100mL	<=0, P	Microbiological Standard
03/03/2015 09:53	< 1 counts/100mL	<=0, P	Microbiological Standard
03/10/2015 10:41	< 1 counts/100mL	<=0, P	Microbiological Standard
03/16/2015 10:25	< 1 counts/100mL	<=0, P	Microbiological Standard
03/24/2015 08:29	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		Criteria	
03/31/2015 09:47	< 1 counts/100mL	<=0, P	Microbiological Standard
04/07/2015 10:30	< 1 counts/100mL	<=0, P	Microbiological Standard
04/21/2015 09:44	< 1 counts/100mL	<=0, P	Microbiological Standard
04/27/2015 09:52	< 1 counts/100mL	<=0, P	Microbiological Standard
05/05/2015 10:23	< 1 counts/100mL	<=0, P	Microbiological Standard
05/12/2015 09:47	< 1 counts/100mL	<=0, P	Microbiological Standard
05/19/2015 10:39	< 1 counts/100mL	<=0, P	Microbiological Standard
05/26/2015 09:44	< 1 counts/100mL	<=0, P	Microbiological Standard
06/02/2015 09:30	< 1 counts/100mL	<=0, P	Microbiological Standard
06/09/2015 09:26	< 1 counts/100mL	<=0, P	Microbiological Standard
06/16/2015 09:54	< 1 counts/100mL	<=0, P	Microbiological Standard
06/22/2015 09:22	< 1 counts/100mL	<=0, P	Microbiological Standard
06/30/2015 08:59	< 1 counts/100mL	<=0, P	Microbiological Standard
07/07/2015 09:55	< 1 counts/100mL	<=0, P	Microbiological Standard
07/14/2015 09:41	< 1 counts/100mL	<=0, P	Microbiological Standard
07/21/2015 09:38	< 1 counts/100mL	<=0, P	Microbiological Standard
07/27/2015 10:08	< 1 counts/100mL	<=0, P	Microbiological Standard
08/04/2015 09:50	< 1 counts/100mL	<=0, P	Microbiological Standard
08/11/2015 10:29	< 1 counts/100mL	<=0, P	Microbiological Standard
08/18/2015 09:46	< 1 counts/100mL	<=0, P	Microbiological Standard
08/25/2015 09:30	< 1 counts/100mL	<=0, P	Microbiological Standard

Escherichia coli / E. coli (counts)		Criteria	
09/01/2015 09:54	< 1 counts/100mL	<=0, P	Microbiological Standard
09/03/2015 09:10	< 1 counts/100mL	<=0, P	Microbiological Standard
09/08/2015 10:39	< 1 counts/100mL	<=0, P	Microbiological Standard
09/15/2015 09:48	< 1 counts/100mL	<=0, P	Microbiological Standard
09/17/2015 10:39	< 1 counts/100mL	<=0, P	Microbiological Standard
09/21/2015 09:46	< 1 counts/100mL	<=0, P	Microbiological Standard
09/29/2015 09:56	< 1 counts/100mL	<=0, P	Microbiological Standard
10/06/2015 10:35	< 1 counts/100mL	<=0, P	Microbiological Standard
10/13/2015 10:15	< 1 counts/100mL	<=0, P	Microbiological Standard
10/19/2015 09:35	< 1 counts/100mL	<=0, P	Microbiological Standard
10/27/2015 09:35	< 1 counts/100mL	<=0, P	Microbiological Standard
11/03/2015 09:00	< 1 counts/100mL	<=0, P	Microbiological Standard
11/10/2015 09:58	< 1 counts/100mL	<=0, P	Microbiological Standard
11/16/2015 10:53	< 1 counts/100mL	<=0, P	Microbiological Standard
11/23/2015 10:53	< 1 counts/100mL	<=0, P	Microbiological Standard
11/30/2015 10:30	< 1 counts/100mL	<=0, P	Microbiological Standard
12/07/2015 11:14	< 1 counts/100mL	<=0, P	Microbiological Standard
12/14/2015 09:43	< 1 counts/100mL	<=0, P	Microbiological Standard
12/21/2015 09:42	< 1 counts/100mL	<=0, P	Microbiological Standard
12/29/2015 09:02	< 1 counts/100mL	<=0, P	Microbiological Standard

# samples:	53	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL

# non-detects:	53	**Geometric Mean:**	n/a (based on 0 numerical results)
# of Exceedences:	0		

pH		**Criteria**	
09/17/2015 10:39	7.93		
10/06/2015 10:35	8.37		

# samples:	2	**min:**	7.93
# detects:	2	**max:**	8.37
# non-detects:	0	**avg:**	8.150 (based on 2 numerical results)
# of Exceedences:	0		

Temperature		**Criteria**	
01/06/2015 09:44	7.2 degrees C	<=15	AO
01/13/2015 09:37	6.6 degrees C	<=15	AO
02/03/2015 10:23	6.4 degrees C	<=15	AO
02/24/2015 08:50	6.8 degrees C	<=15	AO
03/03/2015 09:53	6.0 degrees C	<=15	AO
03/10/2015 10:41	6.4 degrees C	<=15	AO
03/16/2015 10:25	7.0 degrees C	<=15	AO
03/24/2015 08:29	6.0 degrees C	<=15	AO
03/31/2015 09:47	6.2 degrees C	<=15	AO
04/14/2015 08:52	6.2 degrees C	<=15	AO
04/21/2015 09:44	7.2 degrees C	<=15	AO
04/27/2015 09:52	6.8 degrees C	<=15	AO
05/05/2015 10:23	7.8 degrees C	<=15	AO
05/12/2015 09:47	7.8 degrees C	<=15	AO
05/19/2015 10:39	8.4 degrees C	<=15	AO
05/26/2015 09:44	9.2 degrees C	<=15	AO
06/02/2015 09:35	9.2 degrees C	<=15	AO
06/09/2015 09:26	7.2 degrees C	<=15	AO
06/16/2015 09:54	7.8 degrees C	<=15	AO
06/22/2015 09:22	9.4 degrees C	<=15	AO
06/30/2015 08:59	9.8 degrees C	<=15	AO
07/07/2015 10:00	8.6 degrees C	<=15	AO
07/14/2015 09:41	11.4 degrees C	<=15	AO
07/21/2015 09:38	9.2 degrees C	<=15	AO
07/27/2015 10:48	9.8 degrees C	<=15	AO
08/03/2015 09:50	9.0 degrees C	<=15	AO
08/11/2015 10:29	10.4 degrees C	<=15	AO
08/18/2015 09:46	9.0 degrees C	<=15	AO

Temperature		**Criteria**	
08/25/2015 09:30	10.8 degrees C	<=15	AO
09/08/2015 10:39	11.2 degrees C	<=15	AO
09/15/2015 09:48	11.8 degrees C	<=15	AO
09/29/2015 09:56	13.4 degrees C	<=15	AO
10/06/2015 10:35	13 degrees C	<=15	AO
10/13/2015 10:15	13.4 degrees C	<=15	AO
10/19/2015 09:35	13.4 degrees C	<=15	AO
10/27/2015 09:35	12.6 degrees C	<=15	AO
11/03/2015 09:00	11.8 degrees C	<=15	AO
11/10/2015 09:58	11.6 degrees C	<=15	AO
11/16/2015 10:53	11.2 degrees C	<=15	AO
11/30/2015 10:30	10.2 degrees C	<=15	AO
12/07/2015	8.8 degrees C	<=15	AO
12/14/2015	8.2 degrees C	<=15	AO
12/21/2015	7.8 degrees C	<=15	AO
12/29/2015	8.2 degrees C	<=15	AO

# samples:	44	**min:**	6.0 degrees C
# detects:	44	**max:**	13.4 degrees C
# non-detects:	0	**avg:**	9.095 degrees C (based on 44 numerical results)
# of Exceedences:	0		

Total Coliforms (counts)		**Criteria**	
01/06/2015 09:44	< 1 counts/100mL	<=10	User-Defined
01/13/2015 09:37	< 1 counts/100mL	<=10	User-Defined
01/20/2015 09:25	< 1 counts/100mL	<=10	User-Defined
01/27/2015 10:30	ND counts/100mL	<=10	User-Defined
02/03/2015 10:23	< 1 counts/100mL	<=10	User-Defined
02/10/2015 09:39	< 1 counts/100mL	<=10	User-Defined
02/16/2015 09:44	< 1 counts/100mL	<=10	User-Defined
02/24/2015 11:29	< 1 counts/100mL	<=10	User-Defined
03/03/2015 09:53	< 1 counts/100mL	<=10	User-Defined
03/10/2015 10:41	< 1 counts/100mL	<=10	User-Defined
03/16/2015 10:25	< 1 counts/100mL	<=10	User-Defined
03/24/2015 08:29	< 1 counts/100mL	<=10	User-Defined
03/31/2015 09:47	< 1 counts/100mL	<=10	User-Defined
04/07/2015 10:30	< 1 counts/100mL	<=10	User-Defined
04/21/2015 09:44	< 1 counts/100mL	<=10	User-Defined
04/27/2015 09:52	< 1 counts/100mL	<=10	User-Defined
05/05/2015 10:23	< 1 counts/100mL	<=10	User-Defined

Total Coliforms (counts)		**Criteria**	
05/12/2015 09:47	< 1 counts/100mL	<=10	User-Defined
05/19/2015 10:39	< 1 counts/100mL	<=10	User-Defined
05/26/2015 09:44	< 1 counts/100mL	<=10	User-Defined
06/02/2015 09:30	< 1 counts/100mL	<=10	User-Defined
06/09/2015 09:26	< 1 counts/100mL	<=10	User-Defined
06/16/2015 09:54	< 1 counts/100mL	<=10	User-Defined
06/22/2015 09:22	< 1 counts/100mL	<=10	User-Defined
06/30/2015 08:59	< 1 counts/100mL	<=10	User-Defined
07/07/2015 09:55	< 1 counts/100mL	<=10	User-Defined
07/14/2015 09:41	< 1 counts/100mL	<=10	User-Defined
07/21/2015 09:38	< 1 counts/100mL	<=10	User-Defined
07/27/2015 10:08	< 1 counts/100mL	<=10	User-Defined
08/04/2015 09:50	< 1 counts/100mL	<=10	User-Defined
08/11/2015 10:29	< 1 counts/100mL	<=10	User-Defined
08/18/2015 09:46	< 1 counts/100mL	<=10	User-Defined
08/25/2015 09:30	< 1 counts/100mL	<=10	User-Defined
09/01/2015 09:54	< 1 counts/100mL	<=10	User-Defined
09/03/2015 09:10	< 1 counts/100mL	<=10	User-Defined
09/08/2015 10:39	< 1 counts/100mL	<=10	User-Defined
09/15/2015 09:48	< 1 counts/100mL	<=10	User-Defined
09/17/2015 10:39	< 1 counts/100mL	<=10	User-Defined
09/21/2015 09:46	< 1 counts/100mL	<=10	User-Defined
09/29/2015 09:56	< 1 counts/100mL	<=10	User-Defined
10/06/2015 10:35	< 1 counts/100mL	<=10	User-Defined
10/13/2015 10:15	< 1 counts/100mL	<=10	User-Defined
10/19/2015 09:35	< 1 counts/100mL	<=10	User-Defined
10/27/2015 09:35	< 1 counts/100mL	<=10	User-Defined
11/03/2015 09:00	< 1 counts/100mL	<=10	User-Defined
11/10/2015 09:58	< 1 counts/100mL	<=10	User-Defined
11/16/2015 10:53	< 1 counts/100mL	<=10	User-Defined
11/23/2015 10:53	< 1 counts/100mL	<=10	User-Defined
11/30/2015 10:30	< 1 counts/100mL	<=10	User-Defined
12/07/2015 11:14	< 1 counts/100mL	<=10	User-Defined
12/14/2015 09:43	< 1 counts/100mL	<=10	User-Defined
12/21/2015 09:42	< 1 counts/100mL	<=10	User-Defined
12/29/2015 09:02	< 1 counts/100mL	<=10	User-Defined

# samples:	53	**min:**	< 1 counts/100mL
# detects:	0	**max:**	< 1 counts/100mL
# non-detects:	53	**Geometric Mean:**	n/a (based on 0 numerical results)

# of Exceedences: 0

Turbidity		Criteria	
01/06/2015 09:44	0.43 NTU	<=5	User-Defined
01/07/2015 10:35	0.75 NTU	<=5	User-Defined
01/09/2015 08:41	0.49 NTU	<=5	User-Defined
01/13/2015 09:37	0.33 NTU	<=5	User-Defined
01/15/2015 09:45	0.28 NTU	<=5	User-Defined
01/19/2015 08:50	0.38 NTU	<=5	User-Defined
01/21/2015 09:15	0.52 NTU	<=5	User-Defined
01/22/2015 08:34	0.55 NTU	<=5	User-Defined
02/02/2015 09:40	0.31 NTU	<=5	User-Defined
02/03/2015 10:23	0.38 NTU	<=5	User-Defined
02/05/2015 10:30	0.40 NTU	<=5	User-Defined
02/06/2015 08:53	0.62 NTU	<=5	User-Defined
02/13/2015 09:35	0.40 NTU	<=5	User-Defined
02/16/2015 09:44	0.54 NTU	<=5	User-Defined
02/18/2015 10:20	0.46 NTU	<=5	User-Defined
02/23/2015 09:50	0.45 NTU	<=5	User-Defined
02/24/2015 08:50	0.79 NTU	<=5	User-Defined
03/03/2015 09:53	0.54 NTU	<=5	User-Defined
03/10/2015 10:41	0.50 NTU	<=5	User-Defined
03/16/2015 10:25	0.64 NTU	<=5	User-Defined
03/24/2015 08:29	0.38 NTU	<=5	User-Defined
03/31/2015 09:47	0.38 NTU	<=5	User-Defined
04/07/2015	0.40 NTU	<=5	User-Defined
04/14/2015 08:52	0.48 NTU	<=5	User-Defined
04/21/2015 09:44	0.37 NTU	<=5	User-Defined
04/27/2015 09:52	0.52 NTU	<=5	User-Defined
05/12/2015 09:47	0.64 NTU	<=5	User-Defined
05/19/2015 10:39	0.51 NTU	<=5	User-Defined
05/26/2015 09:44	0.53 NTU	<=5	User-Defined
06/02/2015 09:35	0.51 NTU	<=5	User-Defined
06/09/2015 09:26	0.47 NTU	<=5	User-Defined
06/16/2015 09:54	0.47 NTU	<=5	User-Defined
06/22/2015 09:22	0.54 NTU	<=5	User-Defined
07/07/2015 10:00	0.47 NTU	<=5	User-Defined
07/21/2015 09:38	0.60 NTU	<=5	User-Defined
07/27/2015 10:48	0.50 NTU	<=5	User-Defined
08/03/2015 09:50	0.87 NTU	<=5	User-Defined

Turbidity		Criteria	
08/11/2015 10:29	0.62 NTU	<=5	User-Defined
08/18/2015 09:46	0.4 NTU	<=5	User-Defined
08/25/2015 09:30	0.57 NTU	<=5	User-Defined
09/01/2015 09:50	0.54 NTU	<=5	User-Defined
09/08/2015 10:39	0.86 NTU	<=5	User-Defined
09/15/2015 09:48	0.74 NTU	<=5	User-Defined
09/17/2015 10:39	0.3 NTU	<=5	User-Defined
09/29/2015 09:56	0.47 NTU	<=5	User-Defined
10/06/2015 10:35	0.48 NTU	<=5	User-Defined
10/13/2015 10:15	0.71 NTU	<=5	User-Defined
10/19/2015 09:35	0.40 NTU	<=5	User-Defined
10/27/2015 09:35	0.31 NTU	<=5	User-Defined
11/03/2015 09:00	0.41 NTU	<=5	User-Defined
11/10/2015 09:58	0.31 NTU	<=5	User-Defined
11/16/2015 10:53	0.41 NTU	<=5	User-Defined
11/30/2015 10:30	0.45 NTU	<=5	User-Defined
12/07/2015	0.45 NTU	<=5	User-Defined
12/14/2015	0.28 NTU	<=5	User-Defined
12/21/2015	0.34 NTU	<=5	User-Defined
12/29/2015	0.33 NTU	<=5	User-Defined

# samples:	57	**min:**	0.28 NTU
# detects:	57	**max:**	0.87 NTU
# non-detects:	0	**avg:**	0.487 NTU (based on 57 numerical results)
# of Exceedences:	0	**95th percentile:**	0.797 NTU

Result Legend:

P=present, A=absent, PR=presumptive, ND=non-detect, U=non-detect, OR=over-range, OG=overgrown,
TNTC=too numerous to count, NR=no result, NT=not tested, IG=ignore, ER=external report, SC=see comment

< means less than lower detection limit shown
> means greater than upper detection limit shown
« means detected & less than number shown
» means detected & greater than number shown

*** Indicates Criteria is exceeded**

APPENDIX B

ADDITIONAL REPORTS

Attached

Glenmore-Ellison Improvement District

Emergency Response Plan

Prepared: March 2000
Updated: September 29, 2017

Table of Contents

SYSTEM OVERVIEW

1.1 System Description

Glenmore-Ellison Improvement District (GEID) is one of five main water purveyors in Kelowna, British Columbia. The District boundaries extend across an area of approximately 3,694 hectares (36.9 km2, or 9,127.9 acres), of which 1,750 hectares (4,330 acres) of land is serviced with water, of which 786 hectares is bonafide agricultural land. GEID supplies water to approximately 7037 residential service connections, serving an estimated population of 19,268 people.

The distribution system consists of three distinct geographical areas, Glenmore, Ellison, and McKinley Landing. Glenmore receives water from Okanagan Lake via McKinley Reservoir and Ellison receives water from Kelowna (Mill) Creek, supplemented with other groundwater sources. Water for the McKinley Landing system is obtained directly from an intake on Okanagan Lake at the Dewdney Pump Station

Glenmore-Ellison Improvement District operates with a total of six interconnections with other adjacent water suppliers to provide an alternate supply of water in event of an emergency situation. Two of the six interconnections are with the Black Mountain Irrigation District water system and the remaining four are with the City of Kelowna water system.

1.2 Recent System Improvements

In 2014, the District began pumping higher quality Okanagan Lake water to supply the Glenmore distribution area. This includes the Glenmore Valley, the Sexsmith area, UBCO, the Kelowna Airport and Quail Ridge. Creek water, previously the primary water source in McKinley Reservoir, is no longer being delivered to the reservoir. GEID's new intake now provides solely Okanagan Lake water to McKinley Reservoir. The intake is currently the deepest intake on Okanagan Lake, and is situated in a desirable location, distant from local valley creeks and industrial or urbanized areas.

The next phase of works currently under construction, with a target completion in the fall of 2017 includes ultraviolet (UV) disinfection that will improve water quality and add an additional source protection barrier to the supply. Subject to meeting Interior Health's filtration deferral criteria, UV disinfection is expected to allow GEID to fully comply with Interior Health's 4-3-2-1-0 drinking water guidelines.

By utilizing water from deep within Okanagan Lake, along with state-of-the-art UV disinfection, GEID will be able to provide safe, cost effective, high quality drinking water that meets Canadian Guidelines year-round.

The GEID continues their ongoing work to ensure the water supplies are not impacted by other watershed user groups. GEID stays in continual contact with watershed stakeholders in an effort to reduce risks and address identified hazards to water quality.

EMERGENCY RESPONSE PROCEDURES

GEID emergency response procedures were developed using best management practices and in consultation with administrative and operations staff. Emergency scenarios for high and medium risk occurrences were evaluated and the resulting contingency plans were established. Course of action procedures included public notification, notification of authorities having jurisdiction, and action items necessary to minimize consequences and return to normal operations condition were documented to create the GEID Emergency Response Plan.

The plan provides a step-by-step response to, and recovery from, incidents related to situations of emergency. The ability of water utility staff to respond rapidly in an emergency will help prevent unnecessary complications, prevent damage to water infrastructure and protect public health and safety.

The main goals of the Emergency Response Plan are to

1. Protect public health and safety in the event of an emergency
2. Protect water treatment and water distribution infrastructure
3. Minimize disruption of water service to customers
4. Comply with GEID Water System Conditions on Permit (IH requirement).

GEID reviewed and identified hazards and vulnerabilities to events that created risk to water quality, water supply, and public safety. The emergency scenarios with the highest probability of occurrence and with the greatest consequence potential were identified. Through planning with GEID, a contingency plan for each potential scenario was developed. The documented procedures below are intended to provide a reference to be utilized while responding to the emergency event.

The Emergency Response Plan is a living document that should be reviewed and updated on an annual basis and following emergency events.

Training and practice are essential for an effective emergency response. Training should be ongoing to reinforce previous training and introduce existing and new staff to the program.

Emergency response procedures are provided below for various emergency scenarios. It is understood that each real emergency will generate unique circumstances. The best contingency will require an assessment using sound and logical judgement. This Emergency Response Plan is intended to facilitate the response process by providing a guideline as needed to help make informed decisions, provide updated emergency contact information.

2.0 Emergency Response Procedures

2.1 Water Quality Events Due to Major Land/Mudslides on Kelowna Creek

Actions:

- Call GEID Works Foreman and /or Projects Coordinator
- Determine severity of occurrence
- Contact GEID employees as required
- Close the Kelowna Creek intake and start wells in both Glenmore and Ellison as required
- Turn off irrigation connections as required to ensure well water is pushing up to the intake
- **Initiate water quality response plan as required (refer to Section 8.0 For Water Quality Response Plan)**
- Initiate clean-up as required

Contact:

- Notify Water Stewardship, Department of Fisheries and Oceans, Ministry of Environment
- Notify Interior Health Authority
- Construction crews and equipment operators as necessary
- Local media for Public Service Announcement
- **Refer to Appendix C for emergency contact phone list**

2.2 Contamination of Source Water

2.2.1 Kelowna Creek

(minor/major – e.g. fuel/chemical spills, etc.)

Actions:

- Call GEID Works Foreman and/or Projects Coordinator
- Determine severity of spill and type of contaminant
- Contact GEID staff members as required
- Turn off valve to syphon

- Close screening station gates and open chamber drains
- Turn on Wells as required
- Turn off irrigation services to allow well water to flush lines back into chamber drains
- Fuel absorbing boom material stored in screening station
- Initiate water quality response plan as required (r**efer to Section 8.0 for Water Quality Response Plan)**

Contacts:

- Notify Interior Health Authority, Water Stewardship, Land and Air Protection, Department of Fisheries and Oceans, Regional Emergency (Kelowna Fire Department), and Limnologist Heather Larratt for assistance
- RCMP if due to vandalism or terrorism
- Local media for Public Service Announcement
- **Refer to Appendix C for emergency contact phone list**

2.2.2 Mountain Storage Lakes (Postill, South, Bulman)

(minor/major – e.g. fuel/chemical spills, etc.)

Action:

- Call GEID Works Foreman and/or Projects Coordinator
- Determine severity and type of contamination
- Contact GEID staff members as required
- Turn off dam outflow
- Open other dams to maintain flow to meet system demands
- Initiate delivery of fuel absorbing material – available 24hrs/day from Canada Safety Equipment
- Initiate water quality response plan as required
- **Refer to Section 8.0 for Water Quality Response Plan**

Contact:

- Notify Interior Health Authority, Land and Water British Columbia, Department of Fisheries and Oceans, Regional Emergency Services (Kelowna Fire Department), and Limnologist Heather Larratt for assistance
- Local media for Public Service Announcement

- RCMP if due to vandalism or terrorism
- **Refer to Appendix C for emergency contact phone list**

2.2.3 McKinley Reservoir

(minor/major – e.g. fuel/chemical spills, etc.)

In case of major spill:

Actions:

- Call GEID Works Foreman and/or Projects Coordinator to turn off reservoir and McKinley Chlorinator
- Initiate water quality response plan as required
- **(Refer to Section 8.0 for Water Quality Response Plan)**
- Back feed from the Union Road Reservoir
- Use Airport Well #1 and #2 to supply UBCO zone as required
- Adjust Tutt's surge relief valve to supply Glenmore zone or adjust Scenic/ Firehall PRV and Raisenan Rd PRV to supply Glenmore/Scenic zones.
- Turn off irrigation services as necessary.
- Use system interconnections at Pinto/Sexsmith Rd, Ryder Dr, Caro Park, Golfview, and Summit Drive as required.
- Open Valve @ Airport service road and Old Vernon Road to supply UBCO from Ellison under controlled flow
- Turn on Vector Well #2 as required and start Chlorine System
- For long term shut down, turn on Lochrem Well and plumb into the Dry Valley PRV station line
- In case of long term shut down, we can also cap the siphon at McKinley and plumb a bypass line to the chlorinator
- Spill containment booms available 24hrs/day from Canada Safety Equipment
- Arrange alternate water source as necessary (bottled water/tanker truck)

Contact:

- Interior Health Authority, Water Stewardship, Department of Fisheries and Oceans, Regional Emergency Services (Kelowna Fire Department) and Limnologist Heather Larratt
- Local media for Public Service announcement

- ♦ RCMP if due to vandalism or terrorism

Refer to Appendix C for emergency contact phone list

In case of minor spill:

Actions:

- ♦ Call GEID Works Foreman and/or Projects Coordinator to initiate clean-up
- ♦ Small absorbent boom kept in the McKinley Chlorinator Building
- ♦ Spill containment booms available 24hrs/day from Canada Safety Equipment and Provincial Emergency Program
- ♦ Initiate water quality response plan as required
- ♦ **Refer to section 8.0 for water quality response plan**

Contact:

- ♦ Interior Health Authority, Department of Fisheries and Oceans, Ministry of Water, Land and Air Protection: Water Stewardship Division, Regional Emergency Services (Kelowna Fire Department), and Limnologist Heather Larratt for assistance
- ♦ Local media for Public Service announcement
- ♦ RCMP if due to vandalism or terrorism
- ♦ **Refer to Appendix C for emergency contact phone list**

2.2.4 Okanagan Lake Source: JB Pumpstation, Dewdney Pumpstation

(minor/major – e.g. fuel/chemical spills, etc.)

Actions:

- ♦ Call GEID Works Foreman and/or Projects Coordinator
- ♦ Determine severity of spill and type of contaminants
- ♦ Contact GEID staff members as required
- ♦ Shut-off pumps in affected Pumphouse(s)
- ♦ Fuel absorbing boom material stored at the McKinley Chlorinator
- ♦ Initiate water quality response plan as required
- ♦ **(Refer to Section 8.0 for Water Quality Response Plan)**
- ♦ Arrange alternate water source as necessary

- ♦ Supply McKinley Landing from McKinley via Shayler
- ♦ JB Pumpstation – Shut off Pump Station and switch to McKinley reservoir

Contacts:

- ♦ Notify Interior Health Authority, Water Stewardship, Department of Fisheries and Oceans, Regional Emergency Services (Kelowna Fire Department) and Limnologist Heather Larratt for assistance
- ♦ RCMP if due to vandalism or terrorism
- ♦ Local media for Public Service Announcement
- ♦ **Refer to Appendix C for emergency contact phone list**

2.2.5 Wells

- ♦ Turn off well immediately and use alternate sources

2.3 Earthfill Dam Failure

The following procedures outline response actions for the Postill Lake, South Lake, Moore lake (Bulman Dam), and McKinley Reservoir Dams: (refer to Appendix D for main and alternate access routes into Kelowna Creek Watershed, as well as Appendix H for possible flooded areas of earthfilled dams).

Follow Procedure in the DAM EPP and OMS manuals.

	Actions as detailed on pages 13 to 15
Dam Breach Large and rapidly increasing uncontrolled release of water due to failure of the dam	Steps 1-5 inclusive
Potential Dam Breach Any condition that could result in dam failure and the uncontrolled release of water from the reservoir	Steps 1-5 inclusive

<u>Earthquake</u> An earthquake alert exists or if an earthquake is felt in the Kelowna Area	A District Official shall immediately direct an inspection of all reservoirs and take the following action:
Severe Damage	Steps 3-5 inclusive
Significant Damage	Steps 3-5 inclusive
Minor Damage	File a complete written report
No Damage	File a complete written report
<u>Floods</u> Slumping of earthfill dam Spillway failure Outlet Gate failure Seepage or springs Increased downslope drainage	Steps 1-5 inclusive
<u>Criminal Action</u> Malicious destruction or threat thereof of dam, gateworks or spillway	A District Official shall notify the RCMP and take action as required

<u>Action Procedures</u>:

Step 1: Office or after hours answering service will page GEID Works Foreman and/or Projects Coordinator

Step 2: Office or Duty Man will contact one of the Supervisory Personnel **(Refer to Appendix C for emergency contact phone list)**

Step 3: (1) or (2) or (3) above to establish a base of operations. He or base will contact (4) and (5) above to meet himself or another employee at the site and set up radio and/or telephone contact with the base office.
Base will advise the Chairman of the Board of Trustees
Base will summon another employee to the office if Supervisor has gone to the site.

Step 4: On receipt of status report from the Dam site, Supervisor will determine action to be taken

If (1), (2) or (4) is not available and the base is uncertain of the nature of the emergency, they will contact one of the following persons who have expertise with earthfill dams to assist with an evaluation:

(a) Mould Engineering Ltd	Office: 250-868-2072
Stuart Mould	Home: 250-763-9029

Jody Good – Primary Contact	Home: 250-769-7722	Cell: 250-878-7195
(b) Urban Systems	Office: 250-762-2517	
Don Dobson		Cell: 250-878-4502
(c) Golder Associates	Office: 250-860-8424	
Glen Rutherford	Cell: 250-870-4251	
(d) Kerr Wood Leidal	Office: 1-866-503-0841	
Mike Nolan	Home: 1-250-545-3267	Cell: 1-250-503-8305
(e) Ecora	Office: 250-469-9757#1045	
Mike Laws	Cell: 250-470-8808	

Step 5: If the Supervisor considers the emergency to be serious and urgent, he will advise the following people of the status of the emergency and of the action taken to alleviate the emergency:

(a) RCMP Kelowna	911 or 250-763-3300	
(b) Kelowna Fire Department	911 (Fire)	
(c) Water Stewardship (Penticton)		
Mike Noseworthy-Dam Safety Officer	Office: 1-250-490-2291	Fax: 1-250-490-2231
(d) Ministry of Water, Land and Air: Water Stewardship Division (Victoria)		
Dam Safety Section	Office: 1-250-387-1531	
Will Jolley - Section Head	Office: 1-250-387-3263	Cell: 1-250-812-1603
Robert Mclean –Senior Dam Safety Engineer		Cell: 1-250-952-6805
(e) Interior Health Authority		
Medical Health Officer	Office: 1-866-457-5648	(24 hours emergency Number)
(f) City of Kelowna	Office: 911	
(g) Provincial Emergency Program		
Beryl Itani – Interior Director	Office: 250-215-1789	(24 hours emergency Number)

<u>Possible Action:</u>

Action to be taken will depend on the type of emergency and may:

(a) Require immediate evacuation of downstream inhabited areas in the event of a complete or imminent dam break.

(b) Require precautionary alert by RCMP to prepare for evacuating in the event of a potential dam break and full reservoir

(c) Require the assembly and dispatching of all available local equipment to the site to repair damage, clear or repair spillway, fill slumping areas, etc.

(d) Require lowering the reservoir by opening gate to alleviate any excessive seepage or springs. The maximum emergency release flows for each individual dam are as follows:

Postill Lake:

- Controlled outflows should not exceed 1.9 m^3/s (30,190 us gals/min @ 0.680m)
- Releases greater than 1.9 cum/s (30,190 us gals/min @ 0.680m) can be done under the advisement of those listed in **Step 4 of Section 2.3**
- Notify the City of Kelowna Drainage Engineer should releases exceed more than 1.415 m^3/s (22,442 us gals/min @ 0.585m)

South Lake:

- Controlled outflows should not exceed 0.197 m^3/s (3,200 us gals/min @ 0.170m)
- Releases greater than 0.197 m^3/s (3,200 us gals/min @ 0.170m) can be done under the advisement of those listed in **Step 4 of Section 2.3**

Bulman Dam at Moore Lake:

- Controlled outflows should not exceed 0.82 m^3/s (13,000 us gals/min @ 0.400 m)
- Releases greater than 0.82 m^3/s (13,000 us gals/min @ 0.400m) can be done under the advisement of those listed in **Step 4 of Section 2.3**

McKinley Reservoir:

- Turn off inflow
- Controlled outflows should not exceed 30 cfs (13,465 us gals/min)
- Releases greater than 30 cfs (13,465 us gals/min @ 0.146m) can be done under the advisement of those listed in **Step 4 of Section 2.3**

(e) Require arrangement of a 24-hour site inspection in event of deteriorating structure, outlet gate failures, etc.

2.4 Enclosed Reservoir Failure

The following procedures outline response actions for the Ellison (at Postill Pumpstation), UBCO, Quail Ridge, Scenic, Union, Big Rock, Arthur Ct., Shayler, McKinley Clearwell, and 640 Reservoirs: **(refer to Appendix I for possible flooded areas of enclosed reservoirs)**

	Actions as detailed on pages 16 thru 18
Reservoir Failure Large and rapidly increasing uncontrolled release of water due to failure of the reservoir	Steps 1-5 inclusive
Potential Reservoir Failure Any condition that could result in reservoir failure and the uncontrolled release of water from the reservoir	Steps 1-5 inclusive
Earthquake An earthquake alert exists or if an earthquake is felt in the Kelowna Area	A District Official shall immediately direct an inspection of all reservoirs and take the following action:
Severe Damage	Steps 3-5 inclusive
Significant Damage	Steps 3-5 inclusive
Minor Damage	File a complete written report
No Damage	File a complete written report
Criminal Action Malicious destruction or threat thereof of reservoir, valve works, etc.	A District Official shall notify the RCMP and take action as required

Action Procedures:

It is assumed that an observer will report a situation to the GEID office by telephone at 250-763-6506

Step 1: Office or after-hours answering service will page the GEID Works Foreman and/or Projects Coordinator

Step 2: Office or On Call employee will contact one of the Supervisory Personnel: **(Refer to Appendix C for emergency contact phone list)**

Step 3: On receipt of status report from the reservoir site, GEID Works Foreman and/or Projects Coordinator will determine action to be taken

If GEID Works Foreman and/or Projects Coordinator is uncertain of the nature of the emergency, he will contact one of the following persons who have expertise with enclosed reservoirs to assist with an evaluation:

(a) AF Consulting	Office: 250-870-2478	
Antonio Faccini		
(b) Mould Engineering Ltd	Office: 250-868-2072	
Stuart Mould	Home: 250-763-9029	
Jody Good – Primary Contact	Home: 250-769-7722	Cell: 250-878-7195
(c) Urban Systems	Office: 250-861-5595	
Don Dobson		Cell: 250-878-4502
(d) Kerr Wood Leidal	Office: 1-866-503-1841	
Mike Nolan	Home: 1-250-545-3267	
(e) 4 Dee Engineering	Office: 250-762-6488	
Paul Heinrichs	Cell: 250-212-1733	
Cameron Graham	Cell: 250-470-8826	
(f) AECOM		
Brett deWynter	Office: 250-980-7104 Cell: 250-869-7126	

Step 4: If the GEID Works Foreman and/or Projects Coordinator Supervisor consider the emergency to be serious and urgent, he will advise the following people of the status of the emergency and of the action taken to alleviate the emergency:

(a) RCMP Kelowna	911 or 250-762-3300
(b) Kelowna Fire Department	911 or 250-469-8801
(c) Ellison Fire Department	911 or 250-765-2144
(d) McKinley Fire Department	911

<u>Possible Action:</u>

Step 5:

Action to be taken will depend on the type of emergency and may:

(a) Require immediate evacuation of inhabited areas lower in elevation than that of the reservoir in the event of complete reservoir failure

(b) Require precautionary alert by RCMP to prepare for evacuating in the event of a potential reservoir failure

(c) Require the assembly and dispatching of all local available equipment to the site to repair damage to reservoir structure, fill slumping areas, etc.
Turn-off pumps and inflow valves

(d) Require lowering the reservoir by opening all discharge/outflow valves and drain valves to alleviate any excessive seepage and reduce stress on reservoir structure

(e) Require arrangement of a 24 hour site inspection in the event of deteriorating structure, etc.

2.5 Broken Water Mains

Actions:

- Notify GEID Works Foreman and/or Projects Coordinator to isolate broken line(s) and turn off any pumps and initiate repair
- GEID Works Foreman and/or Projects Coordinator to notify answering service and/or office as how to respond to any further inquiries
- Initiate water quality response plan as required **(Refer to Section 8.0 for Water Quality Response Plan)**
- Arrange alternate water source

Contacts:

- Notify Interior Health Authority
- Local media for Public Service announcement
- **Refer to Appendix C for emergency contact phone list**

2.6 Backflow (Pressure of Syphonage)

Actions:

- Call GEID Works Foreman and/or Projects Coordinator to isolate affected area, evaluate contaminant, and start flushing and disinfection as determined by evaluation

- Initiate water quality response plan as required **(refer to Section 8.0 for Water Quality Response Plan)**
- Arrange alternate water source

Contacts:

- Notify Interior Health Authority
- Local media for Public Service announcement
- **Refer to Appendix C for emergency contact phone list**

2.7 Power Failure

In the event of an extended power outage, little can be done in regards to pumps and wells

- Review SCADA system schematic for reservoir storage volumes
- McKinley Reservoir and enclosed reservoirs at Ellison and Union Road and UBCO (not gravity based) will supply a large portion of the system as they have the capacity to gravity feed the system; this depends on user demand
- The McKinley chlorinator and Postill Chlorinator have onsite backup power, J Bulach Pumpstation, McKinley UV Plant, Capistrano Pumpstation, Big Rock Pumpstation, Academy Way Pumpstation all have back-up on-site generators.
- The Kelowna Creek intake screening station has a natural gas back-up generator.
- All telemetry stations have UPS (Uninterruptible Power Supply) back-up for short term power failures

In the event of a power outage:

Action:

- Call GEID Works Foreman and/or Projects Coordinator from answering service or office
- Call Fortis BC to determine length of power outage
- Initiate water quality response plan
- **(refer to Section 8.0 for Water Quality Response Plan)**
- Arrange alternate water supply as required (bottled water/tanker truck)
- Call EMPS to arrange for large KW portable generators
- Use Ellison system to supply or top up UBCO Reservoir if required

- Monitor Fuel Consumption. See Appendix K for refill times for each station.
- Shut-off all irrigations to reduce demand on the system
- Use alternate pressure zones as directed by the Foreman or Projects Coordinator. See Appendix I for schematic profiles.

Contact:

- Advise Interior Health Authority
- local media for Public Service announcement
- Refer to Appendix C for emergency contact phone list
- Notify KFD if reservoir Fire Flow Storage is compromised
- See Appendix L for minimum fire flow storage levels

2.8 Pump Failure

Normal pumps failure that has an operational spare, are dealt with as part of the regular maintenance program. In the event of a pump failure that leads to interruption of service the following steps are to be taken:

1. Call GEID Works Foreman and/or Projects Coordinator from answering service
2. Notify answering service and/or office on how to respond to further inquiries
3. Follow list 1 or list 2 below as required

List 1 – Short Term Failures

Action:

- Call GEID Works Foreman and/or Projects Coordinator from answering service or office
- Use alternative pumps in station if available
- Make repairs as required

List 2 – Long Term Failures

Action:

- Call GEID Works Foreman and/or Projects Coordinator to evaluate and repair problem
- Bypass or alternatively supply system from another pressure zone
- Replace or repair pump(s)

Contact:

- Interior Health Authority
- All users affected by interruption of service
- Arrange alternate water source (well water, bottled water, tanker truck, etc)
- Interconnection sources (Black Mountain Irrigation District and City of Kelowna)
- Kelowna Fire Department
- **Refer to Appendix C for emergency contact phone list**

2.8.1 McKinley Chlorinator Booster Pump

- No single person to attend if Chlorine alarm activated. Prior to entry confirm no Chlorine gas exits
- Ventilate building as necessary
- Use second online pump or replace pump – in stock at GEID shop at 445 Glenmore Rd
- **Initiate Water Quality Response Plan if required**
- **Ensure UV plant is functioning to provide one form of disinfection**

2.8.2 Tutt Pumphouse

- 3 – 125 hp used to supply UBCO Reservoir (9,000 m^3 storage)
- If one pump goes down – switch on other pump
- If all pumps go down the system can be completely supplied by the Airport #1 and #2 wells or the Ellison system under controlled gravity flow.
- Repair as necessary
- Scenic Pump Station can supply the UBCO Reservoir if the Scenic reservoir is isolated off and the UBCO is filled at a controlled rate
- Turn-off Tutt lands and Dry Valley Irrigations

2.8.3 Union Road Pumphouse

- 3– 30hp pumps feed Union Reservoir (4,822 m^3 storage)
- If one pump goes down, switch on other pump(s)
- If all pumps go down the system will be completely supplied under gravity. Ensure globe valve is forced open or partially open 18”by-pass in station.

- Notify Kelowna Fire Department of reduced fire flow storage
- Repair as necessary
- Raisanen Rd PRV will supplement demand from Scenic & UBCO zones

<u>2.8.3.1 Union Road Pumphouse/Wilden Booster Pumps</u>

- 2 – 75 hp pumps
- If one pump goes down, switch on the other pump
- If both pumps go down, water can be trucked from the Union Rd Reservoir to the Big Rock Reservoir (1,500 m^3 storage).
- Reduced fire flow may result. Notify KFD
- Notify public – NO irrigation allowed
- Repair as Necessary

<u>2.8.3.2 Big Rock Booster Station</u>

- 2 – 5 hp pumps, 1- 20 hp fire pump
- If one of the 5 hp pumps goes down, switch on the other pump and repair as required
- If 20hp fire pump goes down, notify KFD and advise of fire flow
- If all pumps go down, all residents will still be supplied but with low pressure
- Plumb in 1.5 hp Cl2 booster to supply domestic use pressure if required.

2.8.4 Scenic Road Pumphouse

- 1 – 10hp, 2 – 75hp, 1 – 125hp pumps feeds Scenic Reservoir - 300 m^3 storage.
- If one pump goes down, switch on the other pump(s) as required
- If all pumps go down the UBCO/Scenic PRV will supply all domestic needs and all irrigation – manual valving may be required to lock out the Scenic Reservoir and adjust the pressure relief valve at the Scenic Pump House to maintain a constant pressure in the zone.
- The Airport #1 and #2 wells could also assist or the Ellison System.
- Two PRV's on Academy Way will open and supply water from the Quail zone
- Reduced fire protection may result – Notify the Kelowna Fire Department
- Repair as necessary

2.8.5 Quail Ridge Pumphouse

- 3 – 30hp pumps feeds Quail Reservoir (2,725 m^3 storage)
- If one pump goes down, switch on other pump(s) as required
- If all pumps go down use the Academy Way Pumpstation to supply from 515 PZ

2.8.5.1 Capistrano Booster Station

- 2 – 5 hp pumps, 1 - 75 hp fire pump
- if one of the 5hp pumps goes down, switch on the other pump and repair as required
- if 75 hp fire pump goes down, notify KFD advised reduced fire flow
- if all pumps go down, all residents will still be supplied but with low pressure
- plumb in 1.5 hp Cl2 booster to supply domestic use pressure if required.

2.8.6 Postill Pumphouse

- 2 – 30hp pumps feeds the 2,000 m^3 reservoir
- If one pump goes down, switch on the other pump
- If both pumps go down, the reservoir will fill by gravity to 45% or open 18” valve to bypass reservoir, system will supply full domestic and irrigation demand **(contact time may be affected, so notify Interior Health Authority)**
- Reduced fire protection may result – Notify Ellison Fire Department
- Repair as necessary
- Use Ellison, Airport #1 or Airport #2 wells to supplement as required

Initiate A & B if required:

A. Turn on the Ellison Well, Airport #1 and Valve Airport #2 to supply Ellison as required.
B. Or Open valve @ the airport service road / Old Vernon Rd to supply Ellison from UBCO zone. Valve system to have the Ellison well supply the higher elevations.

2.8.7 Postill Pumphouse Chlorinator Booster Pump

- 3 – 1.5hp pumps
- If one pump goes down, switch on one of the other pumps
- If all pumps go down, turn off Cl_2 and ventilate building as necessary

- Manual or metering pump injection of sodium hypochlorite is an alternative

Initiate A & B if required:

A. Turn on the Ellison Well, Airport #1 and Valve Airport #2 to supply Ellison as required.
B. Or Open valve @ the airport service road / Old Vernon Rd to supply Ellison from UBCO zone. Valve system to have the Ellison well supply the higher elevations.

- Turn off all Irrigation services to reduce demand
- Initiate water quality response plan if required
- Repair as necessary
- Replacement pump – in stock at 445 Glenmore Rd.

2.8.8 Bulach (Rojem Road) Pumpstation

- 1 – 15hp pump
- If pump goes down, the Scenic Road Pumphouse will supply adequate domestic pressure if the irrigation services are turned off
- Repair as necessary

2.8.9 District Wells

- Ellison Well, Lochrem Rd Well, Airport Well No. 1, Airport Well No. 2
- All wells are used as supplemental or back-up supplies
- If any well goes down, the system will be supplied by other water sources
- Repair as required
- In case of flooding or well contamination, turn off the pump immediately. Disinfect well as required and test

2.8.10 Okanagan Lake (Dewdney) Pumpstation

- 2 – 50hp pumps
- If one pump goes down, switch on the other pump
- If both pumps go down, the Arthur Ct Reservoir, 794 m^3 will maintain pressure for a short period of time depending on demand

- Shayler booster/PRV will open automatically to supply Arthur Ct Reservoir when level gets to 10%. Shayler booster/PRV is supplied by the Shayler reservoir and the McKinley Beach Pumpstation
- Turn off all irrigation and notify residents
- Water can be tanked from the hydrant at the McKinley Chlorinator and hauled to the Arthur Ct Reservoir as needed
- Repair as required

2.8.11 Joe Bulach Pumpstation

This system is under commissioning (October 2017). The ERP will be revised to capture the procedures to be followed under an emergency event.

- 4 – 700 hp pumps

2.8.12 Shayler Pumpstation

This system is under commissioning (October 2017). The ERP will be revised to capture the procedures to be followed under an emergency event.

- 2 – 50 hp pumps

2.8.13 McKinley Beach Pumpstation

This system is under commissioning (October 2017). The ERP will be revised to capture the procedures to be followed under an emergency event.

- 3 – 200 hp pumps

2.8.14 Academy Way Pumpstation

This system is under commissioning (October 2017). The ERP will be revised to capture the procedures to be followed under an emergency event.

- 3 - 200 hp pumps
- 2 - 50 hp pumps

2.8.15 UV Plant and Clearwell

This system is under commissioning (October 2017). The ERP will be revised to capture the procedures to be followed under an emergency event.

CHLORINE LEAKS

NOTE:

The following two sections (3.0 MINOR CHLORINE LEAKS AND 4.0 MAJOR CHLORINE LEAKS) cover response actions in the case of minor and major chlorine leaks. To determine the actual chlorine concentration (ppm), complete the following:

- Obtain chlorine concentration test kit from the slide cabinet on the left-hand side of the sink in the water quality office located in GEID's office building. Operating instructions for tester are in the tester carrying case

- In the event of chlorine concentration being 3 ppm, or less, refer to Section 3.0 for Minor Chlorine Leaks

- In the event of Chlorine concentrations being 3 ppm or greater, refer to Section 4.0 for Major Chlorine Leaks

IT SHOULD ALSO BE NOTED THAT **<u>UNDER NO CIRCUMSTANCES</u> SHOULD ONLY ONE PERSON RESPOND TO OR ENTER THE BUILDING DURING A POSSIBLE GAS CHLORINE LEAK OR ENTER A CHLORINE ROOM. TWO PERSONNEL MUST RESPOND AND BE ON SITE AT ALL TIMES UNLESS CIRCUMSTANCES ARE UNSAFE TO DO SO, THEN BOTH PERSONNEL SHALL LEAVE TOGETHER. IN THE EVENT OF A REPAIR OF A MINOR CHLORINE LEAK GEID PERSONNEL SHALL NOT ENTER THE CONTAMINATED AREA UNLESS THEY ARE WEARING AN APPROVED RESPIRATOR, AS WELL AS COVERALLS, RUBBER GLOVES AND EYE PROTECTION. FOR MAJOR CHLORINE LEAKS, ISOLATE THE AREA AND CONTACT THE KELOWNA FIRE DEPARTMENT HAZMAT RESPONSE TEAM.

3.0 Minor Chlorine Leaks (Minor Leaks Consist of Concentrations of Less Than 3 PPM)

3.1 The Following Procedures Outline Response Actions for The McKinley, Okanagan Lake (Dewdney), Ellison (Postill Pumpstation), Airport #1, Airport #2, Vector wells Gas Chlorinators for Minor Leaks

Actions:

- Call GEID office, Call GEID Works Foreman and/or Projects Coordinator and wait for back-up operator
- Cautiously approach and test for Cl_2 concentration (test kit in GEID Office)
- **Always wear appropriate safety protection *Respirator, eye protection, skin protection (coveralls, rubber gloves)**
- Turn on room ventilation fan (only if under 3 ppm)
- Turn off all Cl_2 valves that are open on the system manifold
- Initiate water quality response plan as required **(Refer to Section 8.0 for water quality response plan)**
- Determine cause of problem
- Repair as soon as possible

Contact:

- Notify Interior Health Authority
- **Refer to Appendix C for emergency contact phone list**

3.2 The Following Procedures Outline Response Actions for The Liquid (Sodium Hypochlorite) Chlorination Injection Systems

Actions:

- Call to GEID office / Call GEID Works Foreman and/or Projects Coordinator
- Always wear appropriate safety protection *Respirator, eye protection, skin protection (coveralls, rubber gloves)
- Turn off injector pump
- Shut down well if required.
- Initiate water quality response plan as required **(Refer to Section 8.0 for water quality response plan)**

- Determine cause of problem
- Repair as soon as possible
- In case of sodium Hypochlorite spill, contain the spill and neutralize with sodium thiosulfate (stored at districts work yard)

Contact:

- Notify Interior Health Authority
- **Refer to Appendix C for emergency contact phone list**

NOTE: In times of loss of chlorination, sodium hypo-chlorite (liquid chlorine) can be added manually to the Union, Big Rock, Scenic, Quail, UBCO and Postill concrete enclosed reservoirs. This can be accomplished by filling 5-gallon buckets from the sodium hypo-chlorite tote located in GEID's works yard or from the tote located at the Union Road Pumphouse or the Quail Reservoir. The required chlorine can then be dumped into each reservoir via the top access hatch.
***If required, a full tote of sodium hypochlorite can be delivered to the affected site by truck from the GEID works yard. Ensure Transportation of Dangerous Goods requirements are followed.**

4.0 Major Chlorine Leaks: (Major Leaks Consist of Concentrations of 3 PPM or Greater)

4.1 McKinley Chlorinator

Actions:

- Contact office / Call GEID Works Foreman and/or Projects Coordinator Preserve life at all times
- Warn all personnel to evacuate in the direction of up-wind
- Call 911 and inform dispatcher that there is a chlorine leak at 2230 –A McKinley Road, request fire, hazmat (and ambulance if required)
- Evacuate homes in the area of the chlorinator (low-lying homes first – see Appendix C page 4 for notifyees)
- Block McKinley Road to non-emergency traffic at Glenmore Road and a point ½ km west of the chlorinator
- Call Brenntag for assistance if necessary

- Call other GEID employees as required
- **Initiate water quality response plan (Refer to Section 8.0 for Water Quality Response plan)**

Container Repair:

- All repair kits are kept at the GEID shop located at 445 Glenmore Road
- All repair kits will be installed by trained staff of the Kelowna Fire Department
- It is the job of the GEID employees to assist the Fire Department as requested

First Aid Treatment:

- Contaminated skin may be washed with soap and water for a period of 20 minutes, report to first aid for medical attention and follow-up
- Eye contamination may be washed with clear water for periods of 20 minutes, follow up with medical attention
- Remove all contaminated clothing, keep warm, administer oxygen, and transport to hospital

Contact:

- Interior Health Authority
- Ministry of Water, Land, and Air Protection
- Local media for public service announcement
- **Refer to Appendix C for emergency contact phone list**

4.2 Ellison Chlorinator (Postill Pump Station)

Actions:

- Contact office / Call GEID Works Foreman and/or Projects Coordinator
- Preserve life at all times
- Warn all personnel to evacuate in the direction of up-wind
- Call 911 and inform dispatcher that there is a chlorine leak at 6268 Postill Lake Road, request Fire, Hazmat (and Ambulance if required)
- Evacuate homes in the area of the chlorinator (low-lying homes first)
- Block Postill Lake Road ½ km south and ½ km North of the chlorinator to all non-emergency traffic
- Call Brenntag for assistance if necessary
- Call other GEID employees as required

- **Initiate Water Quality Response Plan as required (Refer to Section 8.0 for Water Quality response plan)**

Container Repair:
- All repair kits are kept at the GEID shop located at 445 Glenmore Road
- All repair kits will be installed by trained staff of the Kelowna Fire Department
- It is the job of the GEID employees to assist the Fire Department as requested

First Aid Treatment:
- Contaminated skin may be washed with soap and water for a period of 20 minutes, report to first aid for medical attention, and follow-up
- Eye contamination may be washed with clear water for periods of 20 minutes, follow-up with medical attention
- Remove all contaminated clothing, keep warm, administer oxygen, and transport to hospital

Contact:
- Interior Health Authority
- Ministry of Water, Land, and Air Protection
- Local media for Public Service announcement
- **Refer to Appendix C for emergency contact phone list**

4.3 Okanagan Lake (Dewdney) Pumpstation

Actions:
- Contact office / Call GEID Works Foreman and/or Projects Coordinator
- Preserve life at all times
- Warn all personnel to evacuate in the direction of up-wind
- Call 911 and inform dispatcher that there is a chlorine leak to the left of house #2052 Dewdney Rd, request Fire, Hazmat (and Ambulance if required)
- Evacuate homes in the area of the chlorinator (low-lying homes first)
- Block Dewdney Rd ½ km south and ½ km North of the chlorinator to all non-emergency traffic
- Notify RCMP to request a police boat to clear the area
- Call Brenntag for assistance if necessary
- Call other GEID employees as required

- **Initiate Water Quality Response Plan as required (Refer to Section 8.0 for Water Quality response plan)**

Container Repair:
- All repair kits are kept at the GEID shop located at 445 Glenmore Road
- All repair kits will be installed by trained staff of the Kelowna Fire Department
- It is the job of the GEID employees to assist the Fire Department as requested

First Aid Treatment:
- Contaminated skin may be washed with soap and water for a period of 20 minutes, report to first aid for medical attention, and follow-up
- Eye contamination may be washed with clear water for periods of 20 minutes, follow-up with medical attention
- Remove all contaminated clothing, keep warm, administer oxygen, and transport to hospital

Contact:
- Interior Health Authority
- Ministry of Water, Land, and Air Protection
- Local media for Public Service announcement
- **Refer to Appendix C for emergency contact phone list**

4.4 Airport Wells #1 and #2, Vector Well

Actions:
- Contact office / Call GEID Works Foreman and/or Projects Coordinator
- Preserve life at all times
- No single operator should attend a major chlorine leak
- Keep the leak contained within the building, keep all doors close and ventilation off
- Warn all personnel to evacuate in the direction of up-wind
- Contact Airport Operations Services (AOS) for emergency assistance at 1-250-807-4304
- Notify RCMP to request a police boat to clear the area
- Call Brenntag for assistance if necessary
- Call other GEID employees as required

- **Initiate Water Quality Response Plan as required (Refer to Section 8.0 for Water Quality response plan)**

Container Repair:

- All repair kits are kept at the GEID shop located at 445 Glenmore Road
- All repair kits will be installed by trained staff of the Kelowna Fire Department
- It is the job of the GEID employees to assist the Fire Department as requested

First Aid Treatment:

- Contaminated skin may be washed with soap and water for a period of 20 minutes, report to first aid for medical attention, and follow-up
- Eye contamination may be washed with clear water for periods of 20 minutes, follow-up with medical attention
- Remove all contaminated clothing, keep warm, administer oxygen, and transport to hospital

Contact:

- Interior Health Authority
- Ministry of Water, Land, and Air Protection
- Local media for Public Service announcement
- **Refer to Appendix C for emergency contact phone list**

ROBBERY OR BREAK-INS

5.0 Robbery or Break-ins

5.1 Office and Shop

Actions:

- Call from Alarm Masters to All-rite Security. They will Call GEID Works Foreman and/or Projects Coordinator if action required
- Call 911 and inform RCMP of address of robbery or break-in
- Once building/area is secured by RCMP, make arrangements for required repairs to buildings/compounds
- If repairs cannot be done immediately, make arrangements for GEID employees and/or security company to be on site until appropriate repairs can be done

5.2 Water System Security Alarms – Reservoir Hatch and Pumpstation Alarms

Actions:

- Call 911 and inform RCMP of address of break-in
- Do not attempt to go to the affected site without back-up and notification of whereabouts.
- Respond to each emergency depending on the situation discovered. In the case contamination of the water is possible due to a break-in. The Works Foreman, Projects Coordinator, General Manager and Operations and Engineering Manager should be consulted immediately.
- In the case contamination of the water is possible due to a break-in contact Interior Health Authority

Communication Directory

Phone List	Name	Title	Phone #
	Drew Allingham	Works Foreman	Home: 250-870-6829 Cell: 250-258-9343
	Mike Rojem	Projects Coordinator	Home: 250-762-4847 Cell: 250-258-8503

TBD	General Manager	Home: Cell:
Mihai Ion	Operations and Engineering Manager	Home: 403-809-1012 Cell: 250-801-3283
Price's Alarm Masters	Security Company	Office: 250-763-0110
Agnes (password – water)	Monitoring Station	Office: 250-762-3633

CYBER and SCADA SECURITY

6.0 Cyber and Scada Security

6.1 Cyber Attack

Actions:

- Call GEID GM, Manager of Engineering and Operations and Projects Coordinator
- Call Northern Computer at 250-762-7753
- Call RCMP at 250-762-3300
- Northern - Check to make sure software on all systems is up to date
- Northern - Run a scan to make sure the system is not infected or acting suspiciously
- Northern - Disconnect the devices from the internet and perform a full system restore
- File a report with the local police

6.2 Major SCADA Failure

Actions:

- Call GEID GM, Manager of Engineering and Operations and Projects Coordinator
- Call Operator on call, Lead Hand and Works Foreman
- Go to the office – check antenna, office hardware, PLC
- Call IITS at 250-717-8813
- Optional - Call Omega Communications 250-860-8016

COMMUNICATIONS DIRECTORY

7.0 Communications Directory – See Appendix C

WATER QUALITY DEVIATION RESPONSE PLAN

8.0 Water Quality Deviation Response Plan

8.1 Background

Glenmore-Ellison Improvement District (GEID) has developed this response plan to provide a guide for identifying unacceptable water quality, determining the appropriate response required, and determining the public communication strategy needed to respond to appropriately respond to the risk.

8.2 Regulatory Standards

8.2.1 Interior Health Requirements

Several projects GEID plans to implement include those that are related to water quality improvements. Interior Health (IH) requires all water suppliers to implement the 4-3-2-1-0 Drinking Water objective. These are a set of goals to achieve:

- 4 log inactivation of viruses;
- 3 log removal or inactivation of Giardia lamblia and Cryptosporidium;
- 2 treatment processes for all surface drinking water systems;
- 1 refers to less than 1 NTU of turbidity with a target of 0.1 NTU;
- 0 total Coliforms and E coli.

8.2.2 Water Quality Reporting

The *Drinking Water Protection Act* and Regulations require that sampling results be immediately reported to the Drinking Water Officer if they do not meet the following water quality standards.

BC Water Quality Standards for Potable Water	
Parameter:	**Standard:**
Fecal Coliform bacteria	No detectable fecal Coliform bacteria per 100 ml
Escherichia coli (*E. coli*)	No detectable Escherichia coli (*E. coli*) per 100 ml
Total Coliform bacteria - 1 sample in a 30-day period	No detectable total coliform bacteria per 100 ml

Total Coliform bacteria - More than 1 sample in a 30 day period	At least 90% of samples have no detectable total coliform bacteria per 100 ml and no sample has more than 10 total coliform bacteria per 100 ml

As per the *Drinking Water Protection Act*, all sampling results will be compiled and submitted to the Senior Drinking Water Officer and Drinking Water officer assigned to GEID water system at the end of each month. An annual report will be prepared within six months of the end of the calendar year.

8.3 Deviation Response and Public Notification

Any deviation in water quality from acceptable levels will initiate a response by the purveyor. This response will depend on the degree of deviation that is occurring and may result in a **MODERATE** or **HIGH** deviation response. The tables below provide a guideline on deviation response base on low chlorine levels, high turbidity and positive bacteriology results. For a description of **MODERATE** and **HIGH** deviation response guideline, refer to section 8.7.

The Interior Health Authority will be notified by GEID whenever either of these conditions occurs to ensure an assessment of potential health risks occurs prior to public notification. If GEID is not able to immediately notify the drinking water officer, the water supplier must immediately give notice of the possible hazard to the users of drinking water.

The Water Quality Deviation Response Guide is to provide direction for Operator, staff, supervisors and management when water quality parameters deviate from normal conditions or operational parameters. If normal water parameters are not met, the Moderate and High Deviation Response Guideline Section 8.7 is to be followed.

8.4 Low Chlorine Deviation Response

Source Water	Moderate Deviation	High Deviation
Okanagan Lake/McKinley Source – Water outflow from Chlorinator	**Free Chlorine Residual below 1.00ppm at outflow analyzer**	**Free Chlorine Residual below 0.50ppm at outflow analyzer**
Kelowna Creek Source – Water outflow from Postil Reservoir	**Free Chlorine Residual below 1.00ppm at outflow analyzer**	**Free Chlorine Residual below 0.50ppm at outflow analyzer**
Okanagan Lake - Arthur Court Reservoir	**Free Chlorine Residual below 0.80ppm at outflow analyzer**	**Free Chlorine Residual below 0.40ppm at outflow analyzer**

GEID Groundwater Wells – All	**Free Chlorine Residual below 0.80ppm at outflow analyzer**	**Free Chlorine Residual below 0.40ppm at outflow analyzer**
Distribution System -	**Free Chlorine Residual below 0.20ppm at sampling point**	**Free Chlorine Residual below 0.20ppm in high volume watermains (greater than 250mm diameter) <u>OR</u> 0.00ppm at ends of lines**

8.5 Turbidity Deviation Response

Source Water	**Moderate Deviation (24 hour Average Trend)**	**High Deviation (Upward trend or 24 hour average)**
Okanagan Lake/McKinley Source – Water outflow from Chlorinator	> 1.0 NTU	> 5 NTU
Kelowna Creek Source – Water outflow from Postil Reservoir	>1.0 NTU	> 5 NTU
Okanagan Lake - Arthur Court Reservoir	> 1.0 NTU	> 5 NTU
Distribution System	> 2 NTU	> 5 NTU

8.6 Bacteriology Deviation Response

Source Water	**Moderate Deviation**	**High Deviation**
Total Coliform Bacteria Distribution System - All	**a) Presence of Total Coliform and >200 background bacteria , <u>or</u> b) Background Bacteria on consecutive samples <u>or</u> c) >10 total Coliform bacteria per 100 ml on one sample. <u>or</u> d) More than 1 sample from a set of samples taken within close proximity having presence of total Coliform on the same sampling date.**	**a) More than 3 samples from a set of samples taken within close proximity having presence of total Coliform on the same sampling date <u>or</u> b) More than 10% of samples, based on a minimum of 10 samples, showing presence of total Coliform organisms. <u>or</u> c) A third consecutive sample confirmed by a certified lab of total Coliform count or MPN.**

Escherichia coli (E. coli) Bacteria Distribution System - All	Refer to "High Deviation" once confirmed	Confirmed Presence of **Escherichia coli (E. coli)** **Immediate Boil Water Notice - Any amount**

8.7 Deviation Response Guidelines – Kelowna Joint Water Committee (KJWC) Synervoice

Tables 8.4, 8.5, and 8.6 above shall initiate a response from GEID staff. The required response will depend on the degree of deviation occurring and may result in a **Moderate** deviation (see section 8.8 below) or **High** deviation (see section 8.9 below) response as noted in the table above.

In addition to the GEID notification procedures outlined in Appendix A, GEID will provide updates on Water Quality by posting information on the Website at **www.glenmoreellison.com**.

To notify sensitive customers, and customers that have made specific requests for water quality notifications, The Kelowna Joint Water committee has established a program called **Synervoice**. The Synervoice system is an automated phone call system that GEID staff can use to automatically dial customers and relay a pre-recorded Water Quality Notice, Boil Water Advisory, or Do not Drink notice. Phone calls are generated to advise companies/individuals on each districts Synervoice Contacts Lists (see appendix A, Public Notification Procedure -.

KJWC Synrevoice System and Synervoice Contact Listing

Location: http://www.kjwc.org/simple/users/login
Username: heather Password: sep16

Adding a contact:

- Login using above information
- Click on "Add Email"
- Fill in requested data.
- Click "Save"

Viewing contacts:

- Login using above information
- Click on "List Emails"
- From this screen you can edit, delete and update a contacts sub-district status

Sending out a message:

- Login using above information
- Click on "Issue Synervoice Notice"

- There are 3 fields that must be completed for the calls to be placed
- Select the appropriate notice type
- If applicable, select the sub-district
- Lastly, choose the Residential type
- Once the form has been completed, click “Send”. Make sure all information is correct before submitting. Once “Send” is clicked, all the information is sent to Synrevoice to be acted upon.
- When issuing a notice through email, click on “send Water Quality Advisory” under emails
- Choose the type of advisory and the residential type.
- Copy and paste the Word doc. into the “details”
- Lastly hit “send”

8.8 Moderate Deviation Response

A moderate deviation in water quality is defined as a moderate change or “shift” from acceptable levels as outlined in Tables 8.4, 8.5, and 8.6 above. In this mode, an identified or potential health risk to drinking water users is determined as Moderate and an operational response and notification may be generated.

The actions to be implemented in cases of Moderate Water Quality Deviation are as follows:

1. Assess situation by initiating investigation into possible causes of the water quality deviation. Implement actions as required to correct situation and establish normal water quality conditions. This may include flushing, increasing chlorine levels, inspection of sample site(s), investigate possible cross-connections, etc. Check other water quality parameters to see if there is a change in turbidity, pH, temperature etc. that are related to change in source or distribution water.

2. At least one GEID management personnel **(See Page 36, Communication Directory)** to be contacted and advised within 24 hours of the deviation. Details are to be provided of the specific changes in water quality that occurred outside of normal levels.

3. GEID management personnel will assess the deviation, and consult with IH to determine if a public notification should be issued **(see Appendix A for Public Notification Procedures).**

4. GEID, in consultation with IH will determine work plan necessary to move forward with GEID response, and additional control measures, monitoring, and reporting.

8.9 High Deviation Response

A high deviation in water quality is defined as an unacceptable change to the parameters as outlined in Tables 8.4, 8.5, and 8.6 above. In this mode, if there is an identified or potential health risk to the public, an investigation and operational response must be generated immediately.

The actions to be implemented in cases of High Water Quality Deviation are as follows:

1. Assess situation by initiating investigation into possible causes of the water quality deviation. Implement actions as required to correct situation and establish normal conditions. This may include flushing, increasing chlorine levels, inspection of sample site(s), investigate possible cross-connections, etc. Check other water quality parameters to see if there is a change in turbidity, pH, temperature etc. that are related to change in source or distribution water.

2. At least one GEID management personnel (**See Page 36, Communication Directory**) to be contacted and advised immediately. Details are to be provided of the specific changes in water quality that occurred outside of normal levels. If GEID management personnel are not available, the GEID operator shall contact IH directly.

3. GEID management personnel will assess the deviation, and consult with IH to determine if a public notification should be issued **(see Appendix A for Public Notification Procedures).**

4. GEID, in consultation with IH will determine work plan necessary to move forward with GEID response and additional control measures, monitoring, and notification.

8.10 Return to Acceptable Water Quality

The Interior Health Authority will advise GEID when water quality results are deemed to have shifted to an acceptable level. In cases where high deviation has resulted in boil water or water quality advisories, the Interior Health Authority will be responsible to advise GEID when the advisory can be lifted.

GEID may then notify their respective contacts.

APPENDIX A

PUBLIC NOTIFICATION PROCEDURE
SYNERVOICE SYSTEM

For Water Quality Advisory, Boil Water Notice and Do Not Drink Notice

1.) GEID immediately contacts the Interior Health Authority and advises on the nature and, if known, severity of the occurrence along with the relevant water quality data

2.) GEID and the Interior Health Authority assess the health risk

3.) If it is determined that a public health risk exists, a public notification process will be initiated immediately

4.) GEID will immediately notify customers within the Glenmore and/or Ellison Districts as applicable. See KJWC Synervoice notification system below

5.) GEID will notify the media, business associations and other water districts within the City of Kelowna. See Synervoice notification system below, and APPENDIX B – Notification Press Release Examples and Media Contacts.

6.) GEID will develop and issue a Press Release and Public Service Announcement to local media, and provide notification and information on the GEID website. See Appendix B for Sample Water Quality Deviation Press Releases and Media Contact Listing.

7.) GEID notify all restaurants, restaurant associations, hotel and motel associations, schools, and the Kelowna General Hospital. See **Appendix C** for Emergency Contact phone listings.

8.) GEID will be required to implement additional monitoring, control measures and reporting as required by the Interior Health Authority and provide daily water quality results to the Interior Health Authority.

KJWC Synrevoice System and Synervoice Contact Listing

Location: http://www.kjwc.org/simple/users/login
Username: heather   Password: sep16

Adding a contact:

- Login using above information
- Click on “Add Entry” underneath “Phone List”
- Fill in requested data. The only mandatory field is the phone number
- Click “Submit”

Viewing contacts:

- Login using above information
- Click on “List Entries” underneath “Phone List”
- Choose the appropriate category from the drop down selection box and press “Go”
- From this screen you can edit, delete and update a contacts sub-district status

Sending out a message:

- Login using above information
- Click on “Call Out” underneath “Phone List”
- There are 3 fields that must be completed for the calls to be placed
- Select the appropriate message type
- If applicable, select the sub-district
- Lastly, choose the alert type
- Once the form has been completed, click “Submit”. Make sure all information is correct before submitting. Once “Submit” is clicked, all the information is sent to Synrevoice to be acted upon.

APPENDIX B

WATER QUALITY NOTIFICATION PRESS RELEASE EXAMPLES
and
MEDIA CONTACT LISTING

Example 1

April 29, 2014

GLENMORE-ELLISON IMPROVEMENT DISTRICT
BOIL WATER NOTICE (Precautionary)
EFFECTIVE TUESDAY, APRIL 29, 2014 AT 5PM

Please Note - THIS BOIL WATER NOTICE ONLY AFFECTS RESIDENTS IN THE ELLISON AREA (excluding Country Rhodes & Country View Stratas)

In consultation with the Interior Health Authority, the Glenmore-Ellison Improvement District (GEED) has issued a Precautionary BOIL WATER NOTICE (BWN) for all water users within the Ellison service areas. The affected area includes all properties serviced by GEID which are located on or east of Old Vernon Road, on or north of Anderson Road, all properties on Postill Lake Road and all properties south of Postill Drive.

PROPERTIES NOT AFFECTED: This BWN does NOT affect residents located at 4451 to 4563 Postill Drive, 5981 Old Vernon Rd, Country Rhodes Strata located at 6100 Old Vernon Rd, Country View Estates Strata located at 6400 Spencer Rd., Dry Valley Road, and Gale Road. PLEASE NOTE: These unaffected properties still remain on a Water Quality Advisory as well as all GEID properties located in Glenmore. The McKinley Landing area is not affected by an advisory and water quality is considered good at this time in the McKinley Landing area.

This precautionary Boil Water Notice is due to increased raw water turbidity in Mill Creek, and increased agricultural water demands that require GEID to begin using creek water. The increased turbidity is expected to continue through Spring Run-off, and will extend through the summer months of 2014 as heavy rainfall events can also lead to rapid turbidity increases in Mill Creek. GEID' s customers will be notified when conditions change or water quality has improved, and when the BOIL WATER NOTICE is rescinded.

The water in the Ellison distribution system is considered to have a "Poor" rating on Interior Health Authority's Turbidity Index, as Turbidity levels may exceed 5 NTU throughout freshet, and whenever stream flows change during the summer such as heavy rainfall events. GEID would like to inform residents that we are maintaining disinfection throughout the distribution system.

The Interior Health Authority makes the following recommendation: *"that all customers drink boiled water or a safe alternative until further notice. Water intended for drinking, washing fruits and vegetables, making beverages or ice, or brushing teeth should be boiled for one minute. Boiled water should then be refrigerated in a clean, covered container. Customers could also choose to use bottled or distilled water, or water that has been filtered through a well-maintained treatment device.*

"Health risks increase as turbidity rises, particularly for at-risk populations such as newborns, the elderly, and people with weakened immune systems. Contaminants such as viruses, bacteria, and parasites can attach themselves to the suspended particles in turbid water. These particles can then interfere with disinfection, limiting chlorine's ability to remove or inactivate the contaminants.

"Owners of all public facilities must post Boil Water. Notices at all sinks or drinking water fountains accessible to the public (alternatively, public fountains and taps may be turned off). As opportunities arise, they must also advise their clientele verbally of the Boil Water Notice."

GELD apologizes for any inconvenience this might cause our customers and appreciates your cooperation and patience during this time.

If you have any further questions please contact the GEID office at 250-763-6506.
GLENMORE-ELLISON IMPROVEMENT DISTRICT

Example 2

Glenmore-Ellison Improvement District
445 Glenmore. Road
Kelowna, BC V I V 1Z6
Email: glemnore.ellison@shaw.ca
Phone: 250-763-6506 Website: www.glenmoreellison.com Fax: 250-763-5688

Water Quality Advisory (WQA) Reminder
Effective: Friday, July 3, 2015

For Ellison Residents

In conjunction with Interior Health, Glenmore-Ellison Improvement District (GEID) wishes to remind approximately 400 residences within the Ellison area, East of Old Vernon Road, that a "Water Quality Advisory" (WQA) is still in effect.

As a precaution, GEID is raising awareness in regards to elevated turbidity levels and poor water quality conditions that are typical within the Mill Creek Source during summer months. Effective water treatment and disinfection is being maintained throughout the distribution system, and water quality is being monitored closely by GEID staff.

Any properties under a WQA have water that is considered FAIR due to elevated turbidity (cloudiness in the water), For FAIR ratings, Interior Health recommends that children (0-12yrs), the elderly (65+yrs) and people with weakened immune systems boil their water for one minute or seek a safe alternative. See www.glenmoreellison.com for more detailed information.

It is important to note that GEID customers in the Glenmore area receiving water from the new Okanagan Lake Intake via the McKinley Reservoir have attained significant water quality improvements in recent months; however, the current WQA remains in effect. No advisory is in effect for properties serviced by the McKinley Landing water system.

See GEID's website at www.glenmoreellison.com or contact the GEID office at 250-763-6506 for more information.

Sincerely,
GLENMORE-ELLISON
IMPROVEMENT DISTRICT
John Bartell, AScT, B.Sc.
Manager of Engineering and Operations

Media Contact List

EZ Rock 101.5	kelownainfo@myezrock.com
The Juice 103.9	info@juicefm.ca
Global News Okanagan	okanagan@globalnews.ca
The Daily Courier	city.desk@ok.bc.ca
Capital News	edit@kelownacapnews.com
AM 1150	news@am1150.ca
Castanet	news@castanet.net
CBC Daybreak South	daybreakkelowna@cbc.ca
Shaw Cable 11	shawtv.okanagan@sjrb.ca

APPENDIX C

COMMUNICATIONS DIRECTORY

APPENDIX C - COMMUNICATIONS DIRECTORY

FREQUENTLY ACCESSED CONTACT INFORMATION

EMERGENCY				911
KELOWNA FIRE DEPARTMENT				250.469.8801
BC AMBULANCE SERVICE				250.860.2777
RCMP				250.762.3300
BC Environmental Emergency Program - Spill Response-Penticton Office				250.490.8200
Emergency Support Services Central Okanagan			**W:**	250.215.1789
Kelowna General Hospital				250.862.4000
Interior Health – Kelowna				
Primary Contact:				
Gordon Moseley	Drinking Water Officer		**W:**	250.549.5714
	Environmental Health Officer		**C:**	250.309.3817
Medical Health Officer After Hours (4:30 p.m. to 8:00 a.m.)				866.457.5648
			C:	250.549.5714
Gordon Moseley	Drinking Water Officer		**W:**	250.549.5725
			F:	250.549.6367
Interior Health - Penticton Health Protection Office				
Christina Yamada	Public Health Engineer		**W:**	250.770.5540 Ext 2792
			W:	250.770.5540
Wayne Radomske	Public Health Engineer		**C:**	250.488.2445
			F:	250.493.0041

Water Stewardship

Water Stewardship (Penticton)			**W:**	250.490.2291
Mike Noseworthy	Dam Safety Officer		**C:**	250.809.6346
Water Stewardship Management (Victoria)			**W:**	250.952.6790
Scott Morgan	Head, Dam Safety Section		**W:**	250.387.3265
			C:	250.380.8849
Will Jolley	Dam Safety Specialist		**W:**	250.952.6759
			C:	250.812.1603
Robert McLean	Senior Dam Safety Engineer	(McKinley Reservoir, Bulman, Postill)	**W:**	250.952.6805
			C:	250.896.0648
Monty Miedreich	Senior Dam Safety Engineer		**W:**	250.387.3264
David Goldfinch	Postill Lake Lodge Owner			250.718.0579
				778.363.0579

GEID STAFF and TRUSTEE CONTACT INFORMATION

911 will notify District office or the 24hr after-hours answering service,
who will notify the following Supervisory Personnel in the order listed.

GEID
445 Glenmore Road — **W:** 250.763.6506
Kelowna, BC V1V 1Z6 — **F:** 250.763.5688
E-mail: glenmore.ellison@shaw.ca

GEID SUPERVISORY PERSONNEL		
Mike Rojem	Projects Coordinator Water Distribution Operator Level III	**H:** 250.762.4847 **C:** 250.258.8503
Mihai Ion	Operations & Engineering Manager	**H:** 403.809.1012 **C:** 250.801.3283
Drew Allingham	Works Foreman Water Distribution Operator Level IV	**H:** 250.870.6829 **C:** 250.258.9343
Brandon Fletcher	Lead Hand Water Distribution Operator Level III	**H:** 250.826.1770 **C:** 250.258.9455
Kelvin Giesbrecht	Water Distribution Operator Level II	**H:** 250.862.9531 **C:** 250.258.8646
Chris MacKay	Water Distribution Operator Level I	**H:** 250.859.9349 **C:** 250.258.8635
Shaun McGaw	Water Distribution Operator Level I	**H:** 250.486.3113 **C:** 250.258.9205
Andrew Cammell	Water Quality Technician	**H:** 250.864.6870 **C:** 250.258.9243
Ernie Schmidt	Water Distribution Operator Level II	**W:** 250.258.9515
Brad Wallace	Meter Operator/Labourer	**W:** 250.258.8840 **C:** 778.256.1403
Daniel King	Water Distribution Operator Level II Water Treatment Operator Level II	**W:** 250.212.5840 **C:** 250.826.8583
Sherree Carter	Administrative Treasurer	**H:** 250.764.8139
Heather Bauer	Billing Clerk	**H:** 250.862.8119
Sarah Vestner	Development Clerk	**H:** 778.477.1198
Susan Ellrodt	Office Support Clerk	**H:** 778.581.0274
Miranda Hsiao	Receptionist	**C:** 250.317.9945
Steven Bonn	Chairperson	**C:** 250.864.1908
Horst Grams	Vice-Chair	**C:** 250.469.4246
Lee-Ann Tiede	Trustee	**C:** 250.878.4146
Steve Lemke	Trustee	**C:** 250.861.1411
Robert Fugger	Trustee	**H:** 250.765.9256

MCKINLEY RESERVOIR DAM BREACH OR FLOODING
(SHORT LIST OF NOTIFYEES)

EVACUEES

Nathan Baron Lot B Plan 17265 2295 McKinley Road	250.219.8648
P. Dean Goertzen & Stephanie Blair Lot C Plan 17265 2265 McKinley Road	250.860.1453
David Hammett Lot 1 Plan 30387 2235 McKinley Road	250.878.7825
City of Kelowna Landfill Site Lot 5 Plan 63448, Lot A Plan 45841, 2105, 2145, 2345, 2340 Glenmore Road	250.469.8880 250.469.8961
Mary Hamann Lot 2 Plan 30387 2245 McKinley Road	250.763.4196
Parminder & Gurpreet Dhaliwal Lot 1 Plan 23026 2470 Glenmore Road	250.868.1995
Khodarahmi Family Holdings Ltd Lot B Plan 19441 2410 Glenmore Road North	778.478.7200
City of Kelowna – Rental House Lot 4 Plan 16293 2340 Glenmore Road North	250.469.8546
Lynda Schmidt & Karen Park Lot 2 Plan 1634 2610 Glenmore Road North	250.300.4130
Glenmore-Ellison Improvement District (Reservoir) Lot D Plan 17265 2175 McKinley Road	250.763.6506

AGENCIES

Fortis BC Natural Gas			1.800.663.9911
Fortis BC Electricity	There is an emergency option on the prompt - Use it ("to report an emergency, press 1")		1.866.436.7847
BC Hydro			1.888.769.3766
Regional District Of Central Okanagan		**W:**	250.763.4918
*After Hours Emergency		**W:**	250.868.5299
*Regular Hours		**W:**	250.469.6241
Ministry of Transportation and Infrustructure: Highway Maintenance		**W:**	250.712.3660
Okanagan-Shuswap District Office		**F:**	250.712.3669
After hours contact* ***Argo Road Maintenance		**W:**	1.800.769.2925
		W:	250.712.3669
Telus			1.888.811.2323
Shaw Cable			1.877.742.9249

CHLORINE TONNER TRUCKING

Brenntag	Sanj Mudaliar	Account Manager	**W:**	604.513.9009 Ext 710415
			C:	604.679.1404
	email: smudaliar@brenntag.ca		**F:**	604.513.9010

DAM TECHNICAL SUPPORT - GOVERNMENT

Water Management Branch:

Ministry of Environment – (Victoria)			**W:** 250.387.3263
Will Jolley, AScT	Dam Safety Specialist William.Jolley@gov.bc.ca	FLNRO	**W:** 250.952.6759 **F:** 250.356.0605 **C:** 250.812.1603
Robert McLean	Senior Dam Safety Engineer (McKinley Reservoir, Bulman, Postill)	FLNRO	**W:** 250.952.6805 **C:** 250.896.0648
Monty Miedreich	Senior Dam Safety Officer		**W:** 250.387.3264
Scott Morgan, AScT	Head, Dam Safety Section Scott.Morgan@gov.bc.ca	FLNRO	**W:** 250.387.3265 **F:** 250.356.0605 **C:** 250.380.8849

Ministry of Environment – (Penticton)			**W:** 250.490.8226
(Coverage to Vernon and area)			
Mike Noseworthy	Sr. Regional Dam Safety Officer Mike.Noseworthy@gov.bc.ca	FLNRO	**W:** 250.490.2291 **C:** 250.809.6346 **F:** 250.490.2231

Ministry of Environment – Conservation Services 1.877.952.7277

Ministry of Transportation & Infrastructure – Okanagan Shuswap District

Jack Bennetto	District Manager Jack.Bennetto@gov.bc.ca	**W:** 250.712.3664
Blaine Garrison	Development Approval Technician blaine.Garrison@gov.bc.ca	**W:** 250.712.3662
Audrie Henry	Development Approval Technician Audrie.Henry@gov.bc.ca	**W:** 250.712.3663 **F:** 250.712.3660

DAM TECHNICAL SUPPORT - PRIVATE

Urban Systems Don Dobson, P.Eng.	Watershed / Forestry	**W:** 250.762.2517 **H:** 250.763.2345 **C:** 250.859.2713
Golder and Associates		**W:** 250.860.8424 Ext.15835
Glen Rutherford	Geotechnical Engineer	**F:** 250-860-9874 C: 250.870.5251

PRIVATE - DAM TECHNICAL SUPPORT continued

AF Consulting Ltd		
Antonio Faccini, P.Eng.	District Engineer	C: 250.870.2478
Mould Engineering	Hydraulic	**W:** 250.868.2072
Stuart Mould, P.Eng.		**F:** 250.868.2078
		H: 250.763.9029
		C: 250.470.2219
Jody Good, AScT		**H:** 250.769.7722
		C: 250.878.7195
Kerr Wood Leidal		**W:** 778.477.4755
Peter Fearon		**C:** 250.718.5042

DIVING SERVICES

Aqua Tech		**W:** 250.765.4730
		F: 250.765.5801
Aquability		**W:** 250.764.0643

ENVIRONMENTAL CONSULTANTS

EBA Engineering Consultants Limited		**W:** 250.862.4832
Scott Martin		**F:** 250.862.2941
		C: 250.878.0828
Ecoscape Environmental Consultants		**W:** 250.491.7337 Ext.202
Jason Schleppe, M.Sc., R.P.Bio	Natural Resources Biologist	
Summit Environmental Consultants Limited		**W:** 250.545.3672
Brent Phillips		**F:** 250.545.3654
		C: 250.938.5529

EQUIPMENT and EQUIPMENT CONTRACTORS

Argo Road Maintenance		**W:**	250.493.6969
Wayne Gable		**After Hours:**	1.800.663.7623
Badger Day Lighting		**W:**	250.765.4800
Cory Hodson		**C:**	778.214.1574
Cat Rentals		**W:**	250.860.3510
D & L Septic Services	**Bulk Tanker**	**W:**	250.765.0999
		24 Hr:	250.212.1819
Electric Motor Pump Service (Generators)		**W:**	250.765.4998
Kon Kast Products Limited		**W:**	250.765.1423
OK Excavating		**W:**	250.765.4902
R&L Excavating		**W:**	250.765.0330
Highmark Excavating		**W:**	250.470.2410
Mid-Mountain Contracting		**W:**	250.860.2839
Doug Callaghaw		**F:**	250.862.2845
		C:	250.862.4539
Pier Mac Gravel		**W:**	250.765.2214
R&L Contracting		**W:**	250.765.0330
Felix Mewu		**C:**	250.212.3004
Ray Smith Services	**Hydrovac**	**W:**	250.470.3414
SI Markle	Vac Truck	**H:**	250.765.9013
		C:	250.878.6203
Westside Rentals		**W:**	250.769.7606
Winn Rentals		**W:**	250.491.1991

FORESTRY

FORESTRY - GOVERNMENT

Ministry of Forests, Lands and Natural Resource Operations - Vernon District **W:** 250.558.1700

F: 250.549.5485

Ministry of Environment - Vernon District **W:** 250.558.1776

FORESTRY - PRIVATE

Tolko Industries Ltd – Kelowna Division **Switch Board:** 250.762.3411

Tolko Industries Ltd – White Valley Division **W:** 250.547.2111

Earl Corfi	Woodlands Manager	**W:** 250.578.2172 **C:** 250.318.3887
Jerome Girard	Timber Development Forester	**W:** 250.547.1222 **C:** 250.260.0493
Mike Thomas	Roads & Logging	**W:** 250.547.1238 **C:** 250.308.2026

Tolko Industries Ltd - Lavington Division **Main Line:** 250.545.4992

Gordon Sitter	Plant Manager	**C:** 250.550.4117

GOVERNMENTS

GLENMORE-ELLISON IMPROVEMENT DISTRICT TRUSTEES

Name	Phone Number	Year Elected	Term	Term Expiry
Steven Bonn-Chair	250-860-1908	2013	3	2019
Lee-Ann Tiede	250-878-4146	2015	3	2018
Steve Lemke	250-861-1411	2014	3	2020
Horst Gram	250-763-3730	2015	3	2018
Robert Fugger	250-765-9256	2014	3	2020

GOVERNMENTS Continued

CITY OF KELOWNA

TBD	Utilities Planning Manager	**W:** 250.469.8876 **F:** 250.862.3363
	City Drainage Engineer	**W:** 250.469.8634
Scott Hookstra	Landfill Operations	**W:** 250.469.8588 **C:** 250.826.3014 **F:** 250.762.8539

HELICOPTERS

Alpine Helicopters-Westbank	**W:** 250.769.4111
Canadian Helicopters-Penticton	**W:** 250.492.0637
Skyline Helicopters-Kelowna	**W:** 250.765.1910

MEDIA

TELEVISION

CHBC-TV		**W:** 250.762.4535
Derek Hinchliffe	News Director	**F:** 250.868.0662
Shaw Cable		**W:** 250.979.6540
Customer Service	Regional Program Manager	**F:** 250.979.6550
	Regional Program Tech	**F:** 250.712.2306
		Email: oktoday@sjrb.ca

RADIO

CBC Radio		**W:** 250.861.3781
Marion Barschel	City Reporter	**F:** 250.861.6644
CILK EZ Rock FM		**W:** 250.860.8600
		Studio: 250.860.1015
CKLZ Power 104 FM		**W:** 250.763.1047
		Studio: 250.763.8800
103.9 Juice FM		**W:** 250.980.9009
		Studio: 250.980.1039

MEDIA Continued

NEWSPAPERS

Capital News		**W:**	250.763.3212
Barry Gerding	Senior Regional Reporter		
Daily Courier (Newsroom)		**W:**	250.470.0739
Pat Bulmer	City Editor	**F:**	250.762.3866

INTERNET (Media)	**W:**	250.860.5050
Castanet	**F:**	250.860.0505
	Email:	news@castanet.net

For Radio/TV BWN	**For Newspaper BWN**
1 Insert press release into copier	1 Insert press release into copier
2 Press Fax button	2 Press Fax button
3 Press LMN button	3 Press LMN button
4 Press Media List button	4 Press Newspaper Faxes button
5 Press Big Green Start button	5 Press Big Green Start button

RENTALS

BARGES

Can-Pro Diving Services Ltd.	**W:**	250.766.2524
Shoreline Pile Driving, Docks & Boat Lifts	**W:**	250.769.7694

BOATS

Dockside Marine	**W:**	250.765.3995
Eldorado Marina	**W:**	250.763.3625
Kelowna Marina	**W:**	1.877.601.8858

EQUIPMENT

Cat Rentals	**W:**	250.550.7610

KJWC SYNREVOICE SYSTEM

Location: http://www.kjwc.org/simple/users/login

Username: heather Password: sep16

Adding an email contact:

- Login using above information
- Click on “Add Email”
- Fill in requested data. Include phone number for Synrevoice
- Click “Save”

Viewing contacts:

- Click on “List Emails”
- You can look up individuals using the search
- Click where indicated to download CSV of the District
- Edit information while in the CSV version

Sending out a Voice message:

- Login using above information
- Click on “Issue Synervoice Notice"
- There are 3 fields that must be completed for the calls to be placed
- Select the appropriate "Notice Type"
- If applicable, select the sub-district to "Notify"
- Lastly, choose the group or groups to notify; to select all, hold down the Control and select each category
- Once the form has been completed, click "Send". Make sure all information is correct before submitting. Once "Send" is clicked, all the information is sent to Synrevoice to be acted upon.

Sending out an Email message

- Login using above information
- Click on "Send Water Quality Advisory"
- Select the appropriate "Notice Type"
- Choose the group or groups to notify; to select all, hold down the Control and select each category
- Lastly, copy and past your Advisory/Notice in the "Details" section and click send.B27

Be Sure to include your email address as a recipient so that you will have a printed version of the Advisory/Notice.

SUPPLIERS

Canadian Safety Equipment Ltd.	**W:** 250.763.5005
Luis Santos	**C:** 250.826.5847
Wolseley – (Waterworks materials)	**W:** 250.765.5186
Jake Jackson	**C:** 250.300.1708
	F: 250.765.5187
Corix	**W:** 250.765.8668
Dave Houghton	**C:** 250.212.0178
Emco Supplies	**W:** 250.765.3653
* Emergency Contact: Sandy	**W:** 250.859.4033
Kurt's Lock & Safe (Locksmith)	**W:** 250.763.7872
SK Welding	**W:** 250.861.7018
Jack Appel	**C:** 250.862.7712

TECHNICAL SUPPORT

MAIN	
Electric Motor & Pump Service	**W:** 250.765.4998
Interior Instrument Tech Services	**W:** 250.717.8813
Brad Anderson	**C:** 250.469.0581
ALTERNATE	
Northern Computer	**W:** 250.762.7753
Mearles Machine Works	**W:** 250.763.0109
Greg Anderson (pumps and PRV's)	**C:** 250.212.4806
Pro Electric	**W:** 250.860.5818
Erland Dueck	**C:** 250.470.2114

WATER HAULERS (POTABLE)

Alpine		**W:** 250.938.4149

WATER SUPPLY DISTRICTS

Black Mountain Irrigation District		**W:** 250.765.5169
		F: 250.765.0277
City of Kelowna Water & Wastewater		**W:** 250.469.8475
*After Hour		**W:** 250.469.8402
*Emergency		**W:** 250.469.4929
Rutland Waterworks		**W:** 250.765.5218
Pete Preston	General Manager	**F:** 250.765.7765
*After hours emergency – call office and someone will be dispatched		**C:** 250.870.6591
South East Kelowna Irrigation District		**W:** 250.861.4200
Toby Pike	General Manager	**F:** 250.861.4213
*After hours emergency – call office or on call cell		**C:** 250.258.4010
District of Lake Country-Engeneering & Operations Department-Water		**W:** 250.766.6677
Michael Mercer	Director of Engineering	**W:** 250.317.3250
*After Hours Emergency		
Greater Vernon Water Utility		**W:** 250.550.3700
Seez Marcolin	General Manager	**F:** 250.550.3701
		W: 250.550.3700
*After Hours Emergency		
District of West Kelowna-Water Service		**W:** 778.797.2246

WATER SUPPLIERS (BOTTLED)

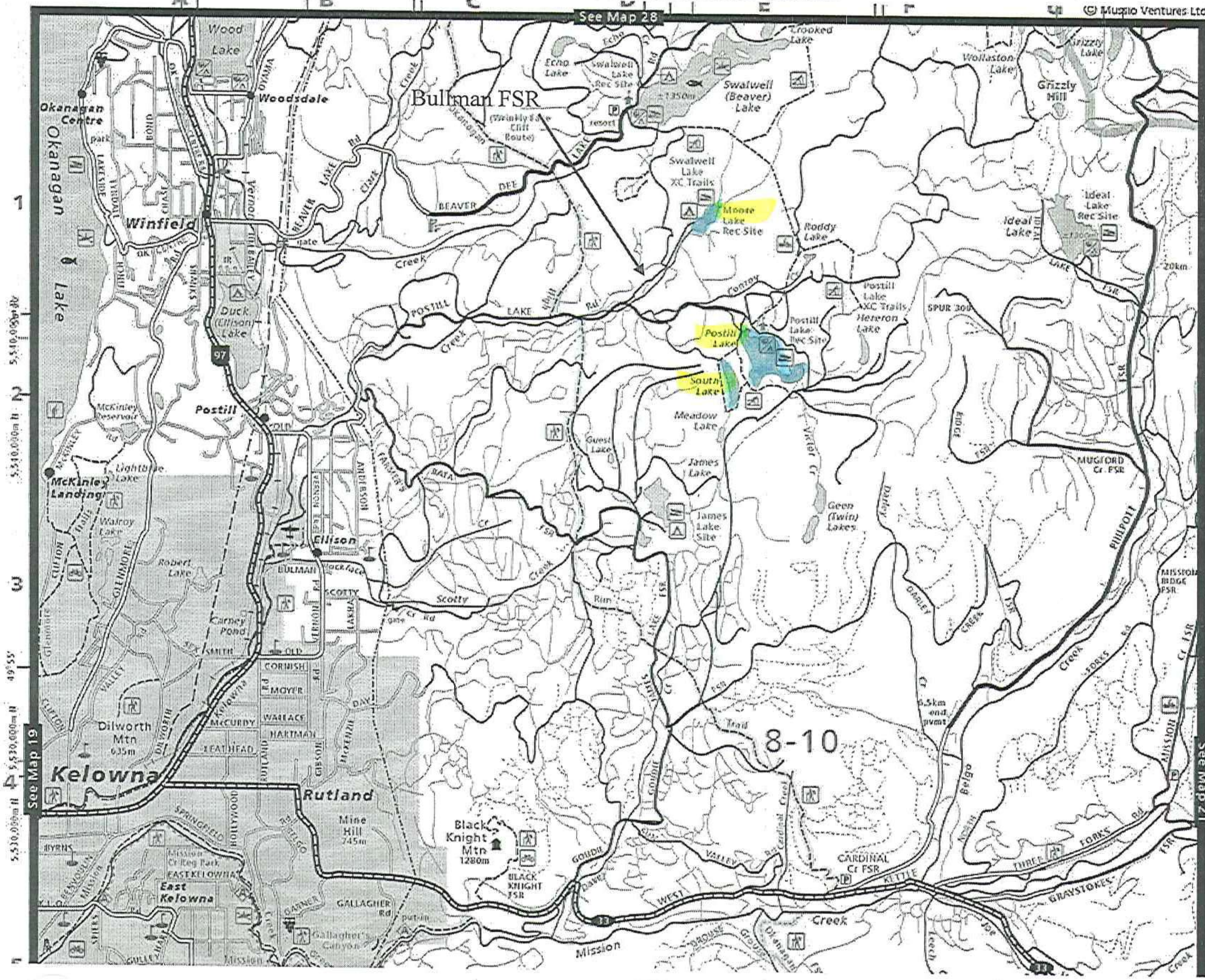
Canadian Springs Water Co. Ltd. ***24 Hour Pager***	**W:** 250.860.0007 1.877.442.7873
OK Drink'n Water Shops Ltd	**W:** 250.763.2373
Sweet Water Springs (Armstrong)	**W:** 250.546.8379
Culligan Water Conditioning	**W:** 250.860.6733
Ecowater 2000	**W:** 250.717.0927
Blue Valley Water	**W:** 250.769.2837
Okanagan Valley Pure Water Systems	**W:** 250.763.3707

APPENDIX D

WATERSHED ACCESS MAP

(Main and Alternate Routes)

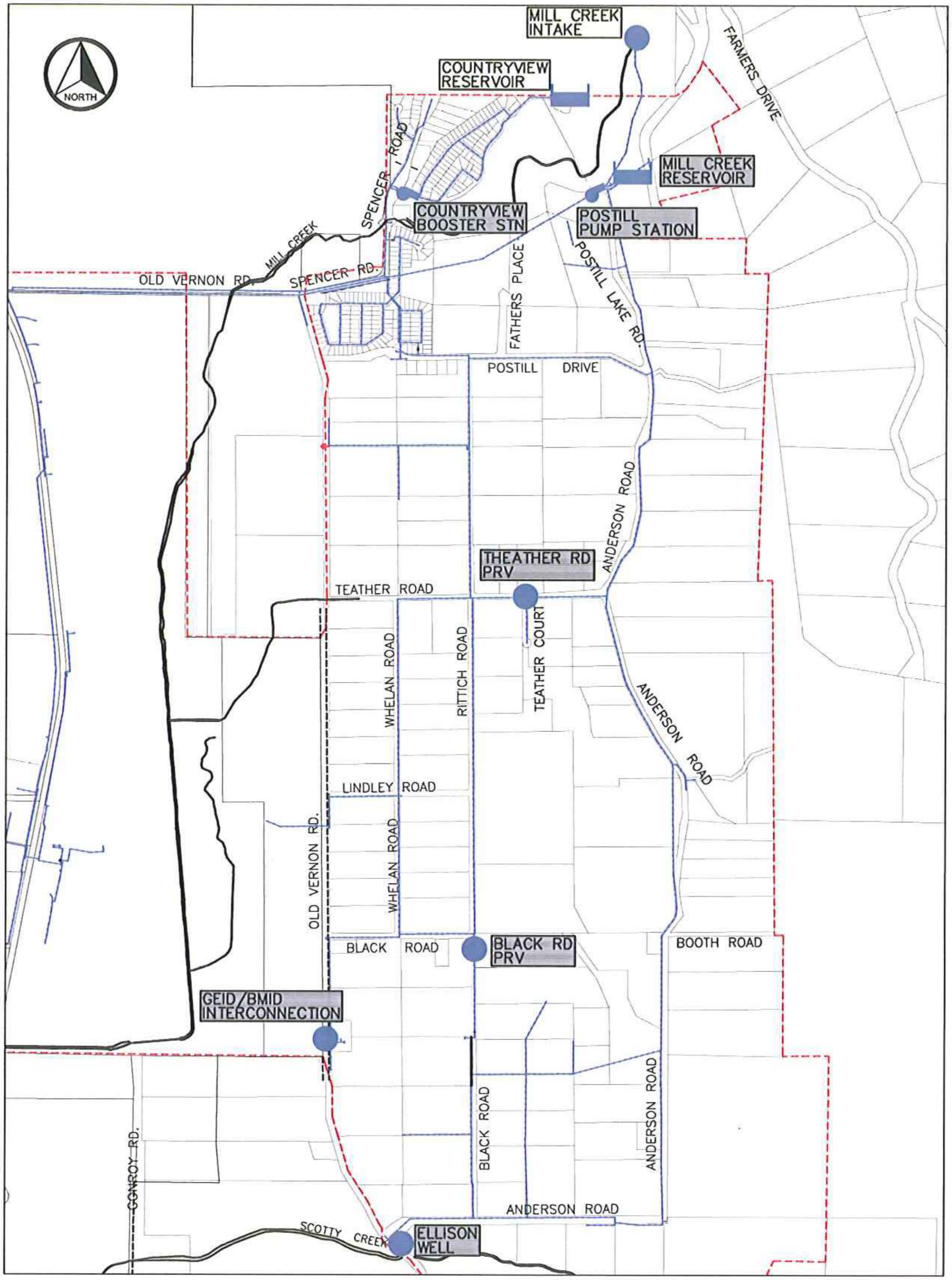
GEID Reservoirs and Access Routes



APPENDIX E

ELLISON DISTRICT

(Water Distribution Map)



ELLISON SYSTEM
SYSTEM OVERVIEW
SCALE 1: 20,000

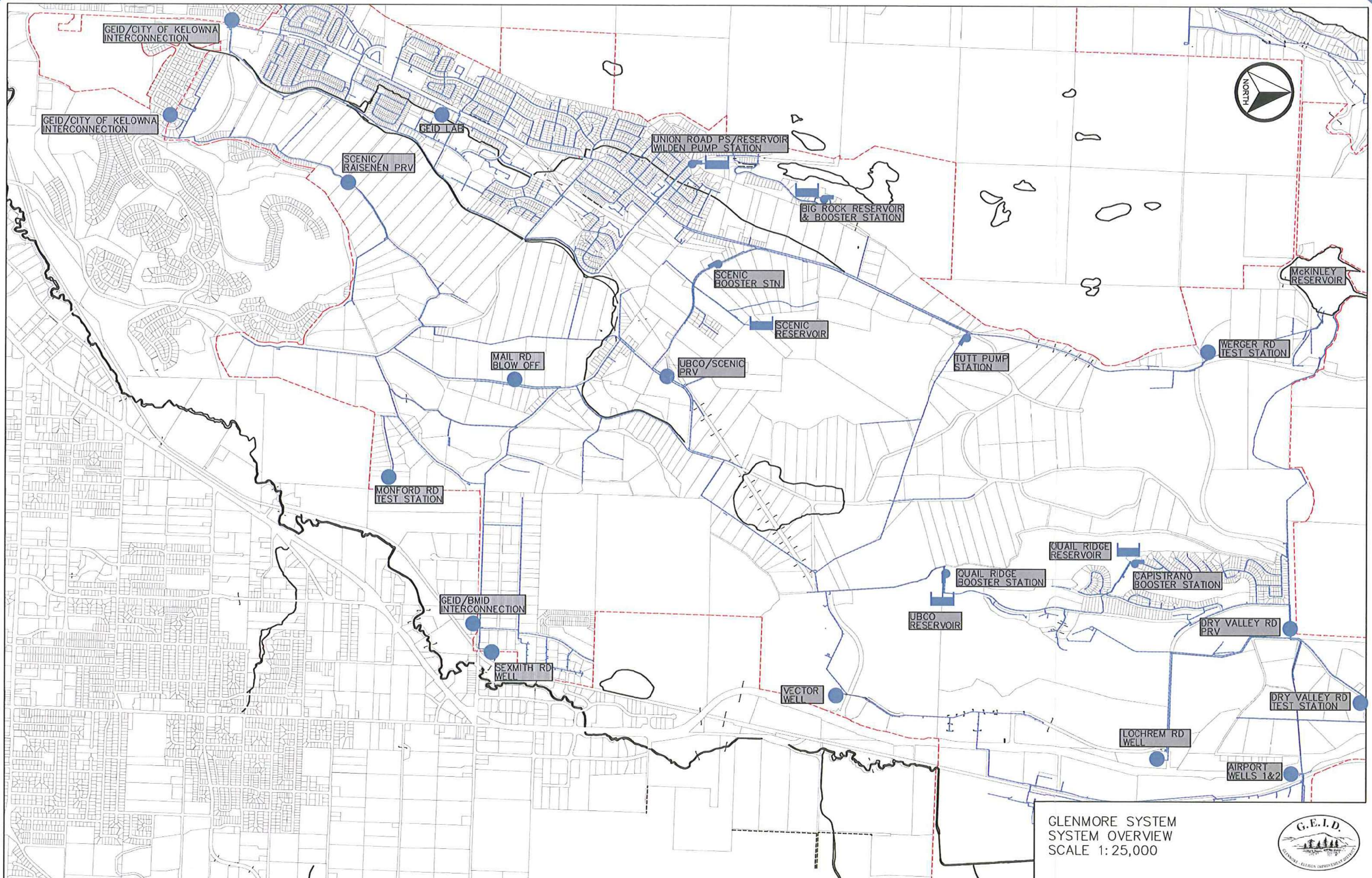
G.E.I.D.

Agua Consulting Inc.
"Engineered Water Solutions"

APPENDIX F

GLENMORE DISTRICT

(Water Distribution System Map)



GLENMORE SYSTEM
SYSTEM OVERVIEW
SCALE 1:25,000

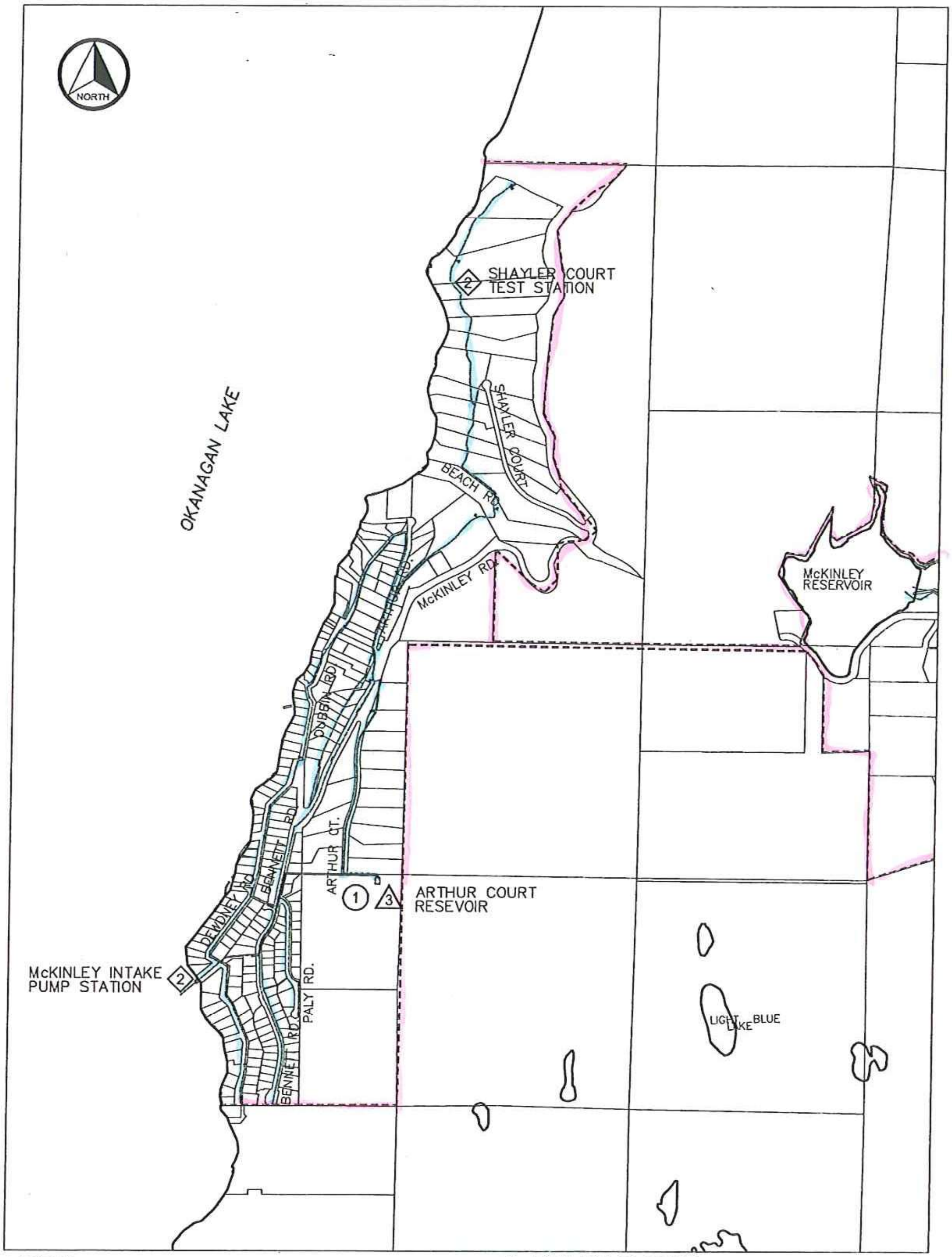
G.E.I.D.

Agua Consulting Inc.
"Engineered Water Solutions"

APPENDIX G

McKINLEY LANDING SYSTEM

(Water Distribution System Map and Operational Schematic)



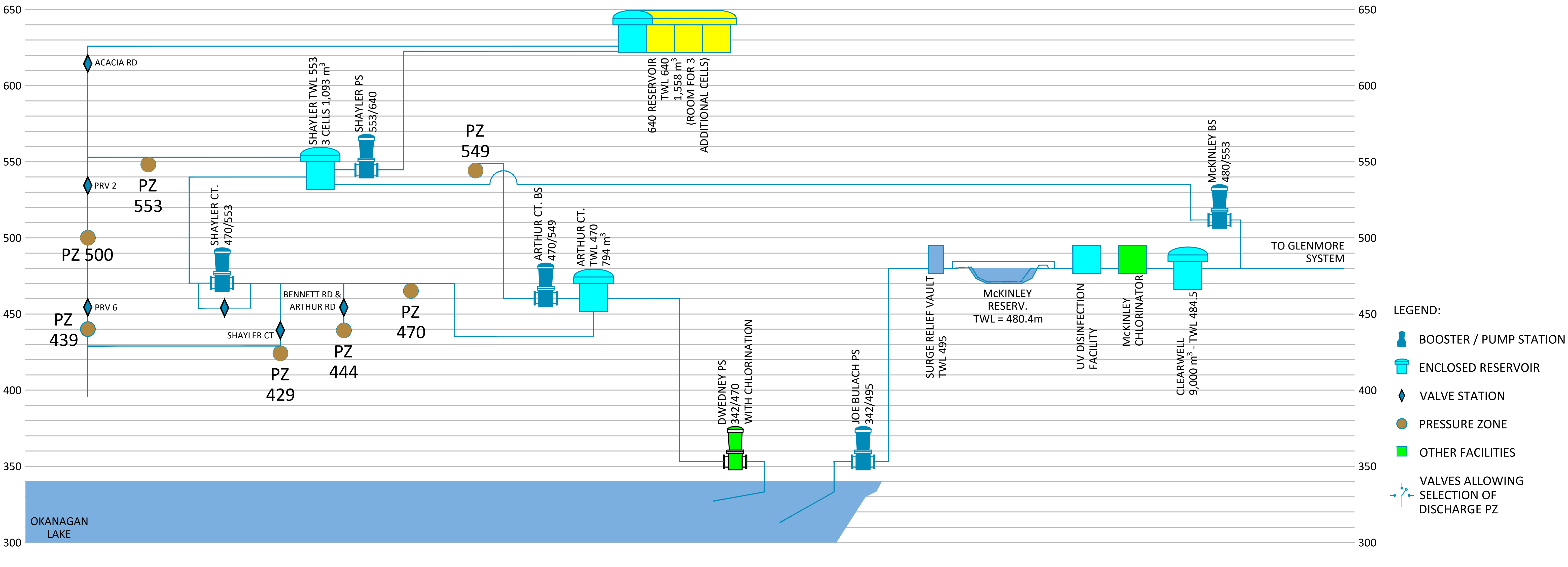
LEGEND

1. WEEKLY BACTERIOLOGICAL – pH, Free & Total Chlorine, Apparent Color, Turbidity, Total Iron
2. BI-WEEKLY BACTERIOLOGICAL – pH, Free & Total Chlorine, Apparent Color, Turbidity, Total Iron
3. DAILY MONITORING – Free Chlorine, Apparent Color, Turbidity, Total Iron
4. SEASONAL MONITORING Test as Necessary

McKINLEY SYSTEM
SAMPLING SITES
SCALE 1: 20,000

G. E. I. D.

Agua Consulting Inc.
"Engineered Water Solutions"



MCKINLEY LANDING SYSTEM
SCHEMATIC PROFILE

NOTE:
FACILITIES WERE CHLORINE DISINFECTION IS CARRIED OUT ARE SHOWN IN GREEN.
FACILITIES UNDER CONSTRUCTION OR CONSTRUCTION START WITHIN A YEAR ARE SHOWN IN YELLOW.

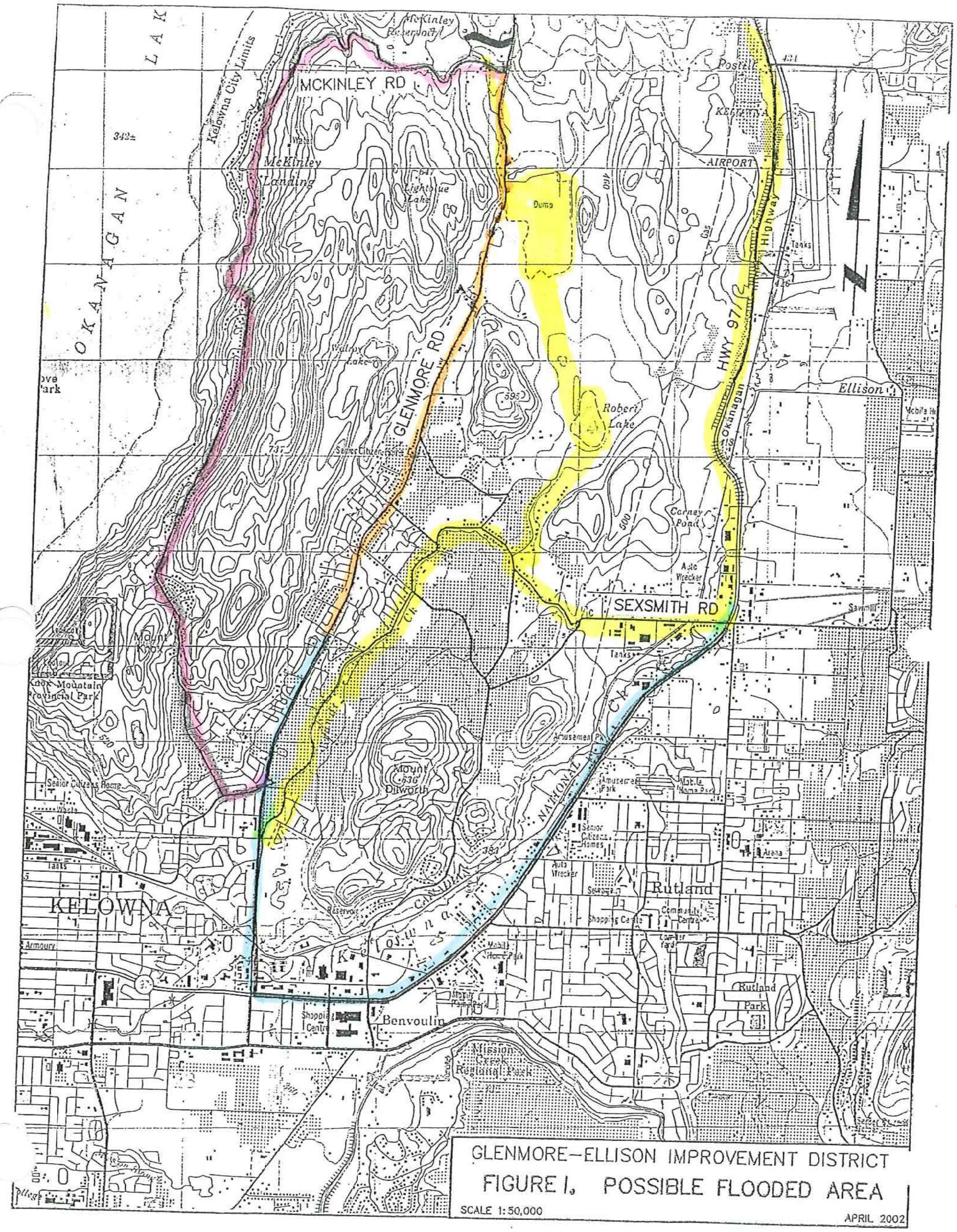
FIGURE A
GLENMORE-ELLISON IMPROVEMENT DISTRICT
MCKINLEY LANDING
SCHEMATIC PROFILE

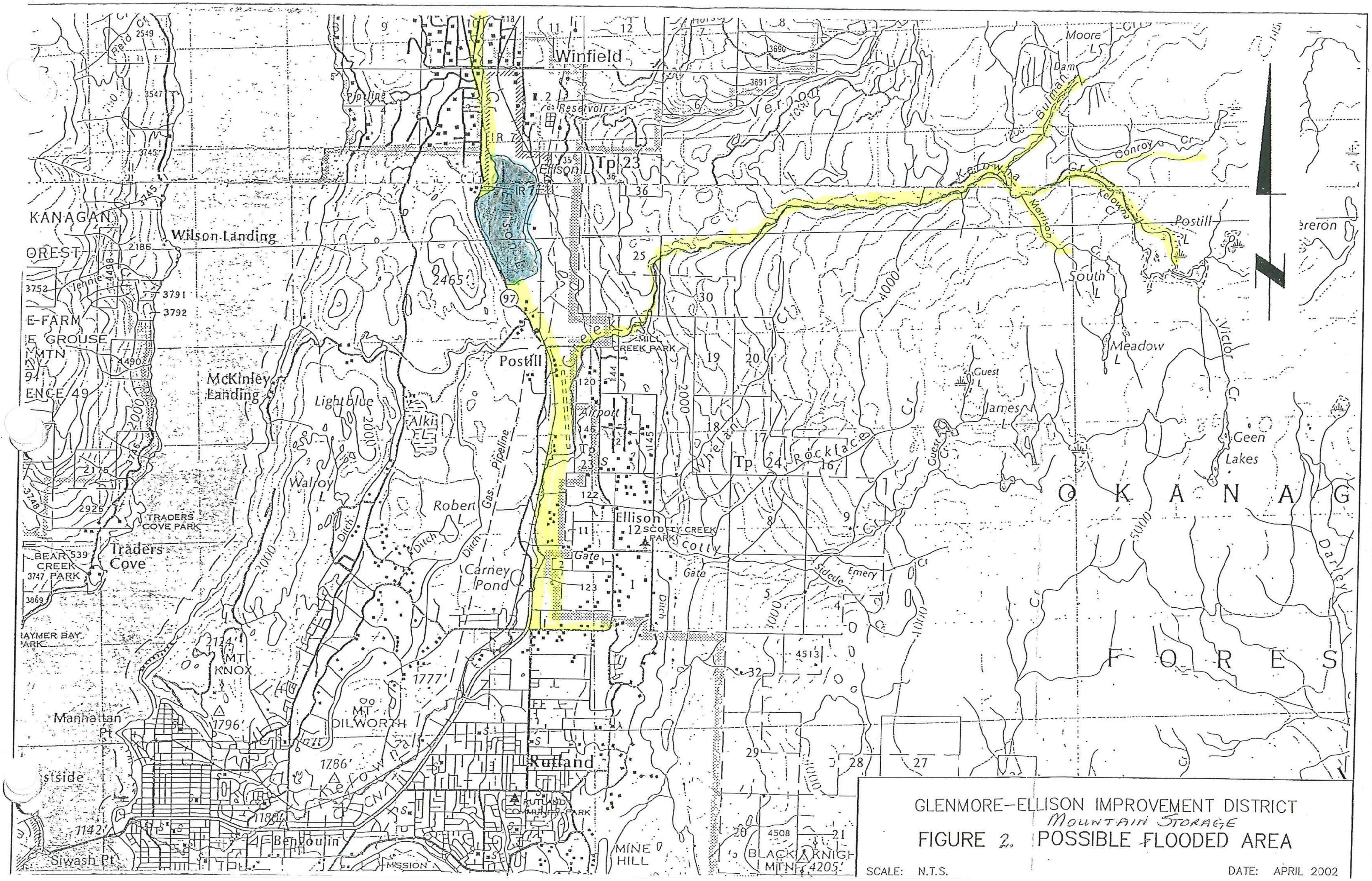
AF CONSULTING
Water & Environmental Engineering

APPENDIX H

POSSIBLE FLOODED AREAS OF EARTHFILLED DAMS

(Figure 1: McKinley Reservoir Dam)
(Figure 2: Postill Lake Dam, Bulman Lake Dam, South Lake Dam)
(Ellison, Glenmore, McKinley Landing Inundation Maps)


MCKINLEY RD
GLENMORE RD
SEXSMITH RD
HWY 97
AIRPORT
Ellison
Robert Lake
Corney Pond
Mount Dilworth
Rutland
Benvoulin
KELOWNA
OKANAGAN LAK
Kelowna City Limits
McKinley Landing
Knox Mountain Provincial Park
Mission Creek Regional Park
Dump
Rutland Park
Okanagan Highway
NATIONAL
GLENMORE-ELLISON IMPROVEMENT DISTRICT
FIGURE I. POSSIBLE FLOODED AREA
SCALE 1:50,000
APRIL 2002



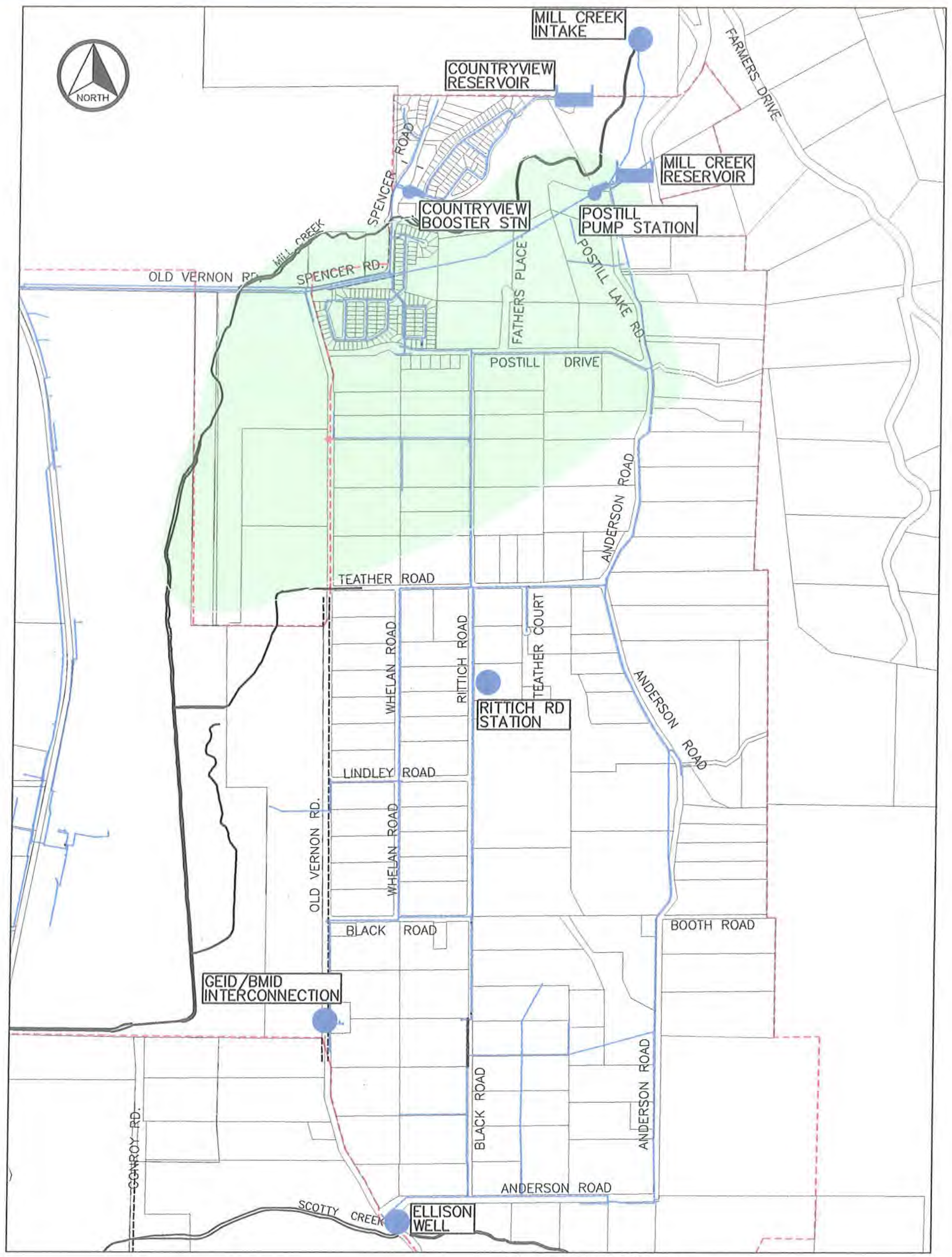
GLENMORE–ELLISON IMPROVEMENT DISTRICT

Mountain Storage

FIGURE 2. POSSIBLE FLOODED AREA

SCALE: N.T.S.

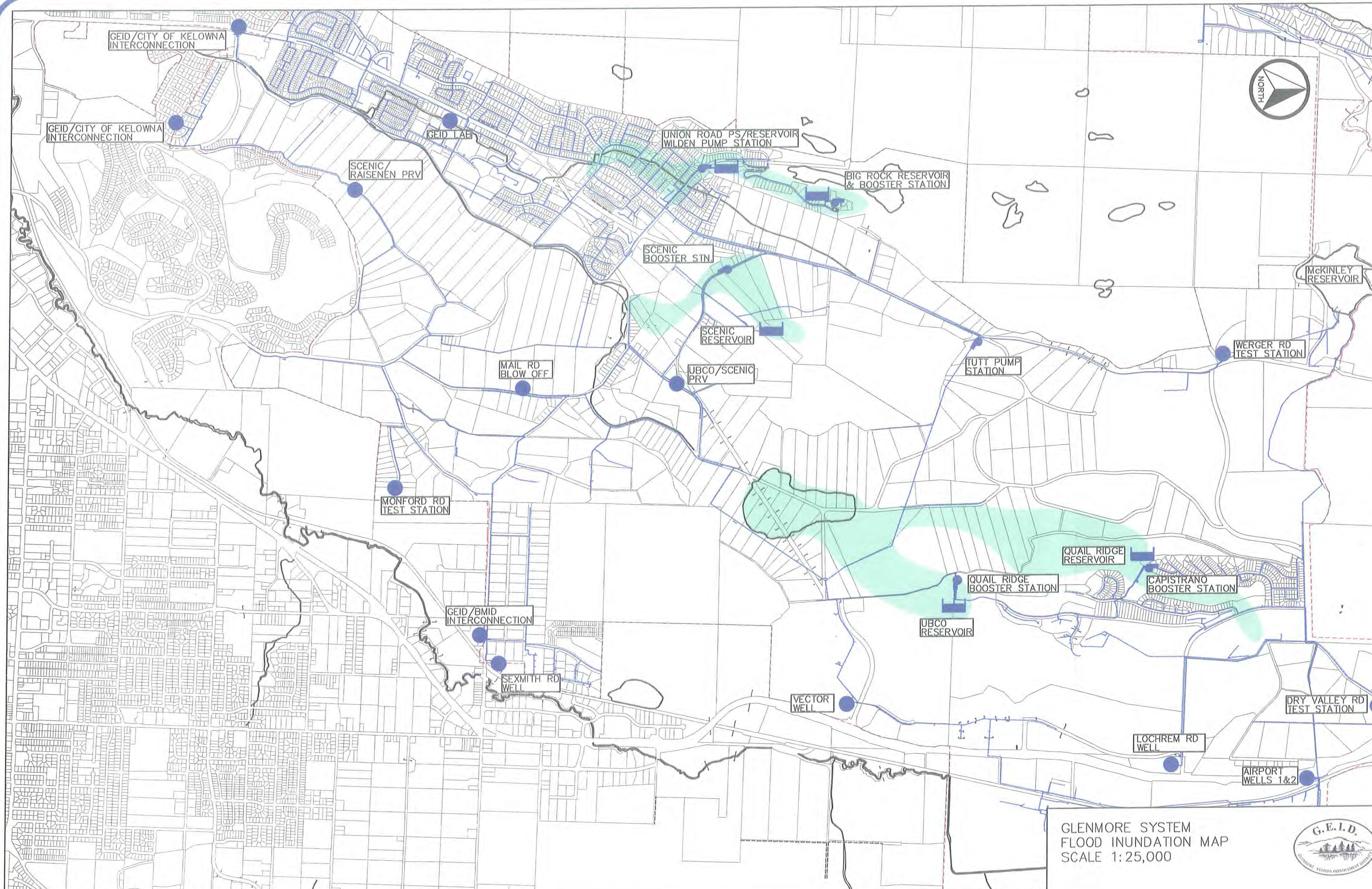
DATE: APRIL 2002



ELLISON SYSTEM
FLOOD INUNDATION MAP
SCALE 1:20,000

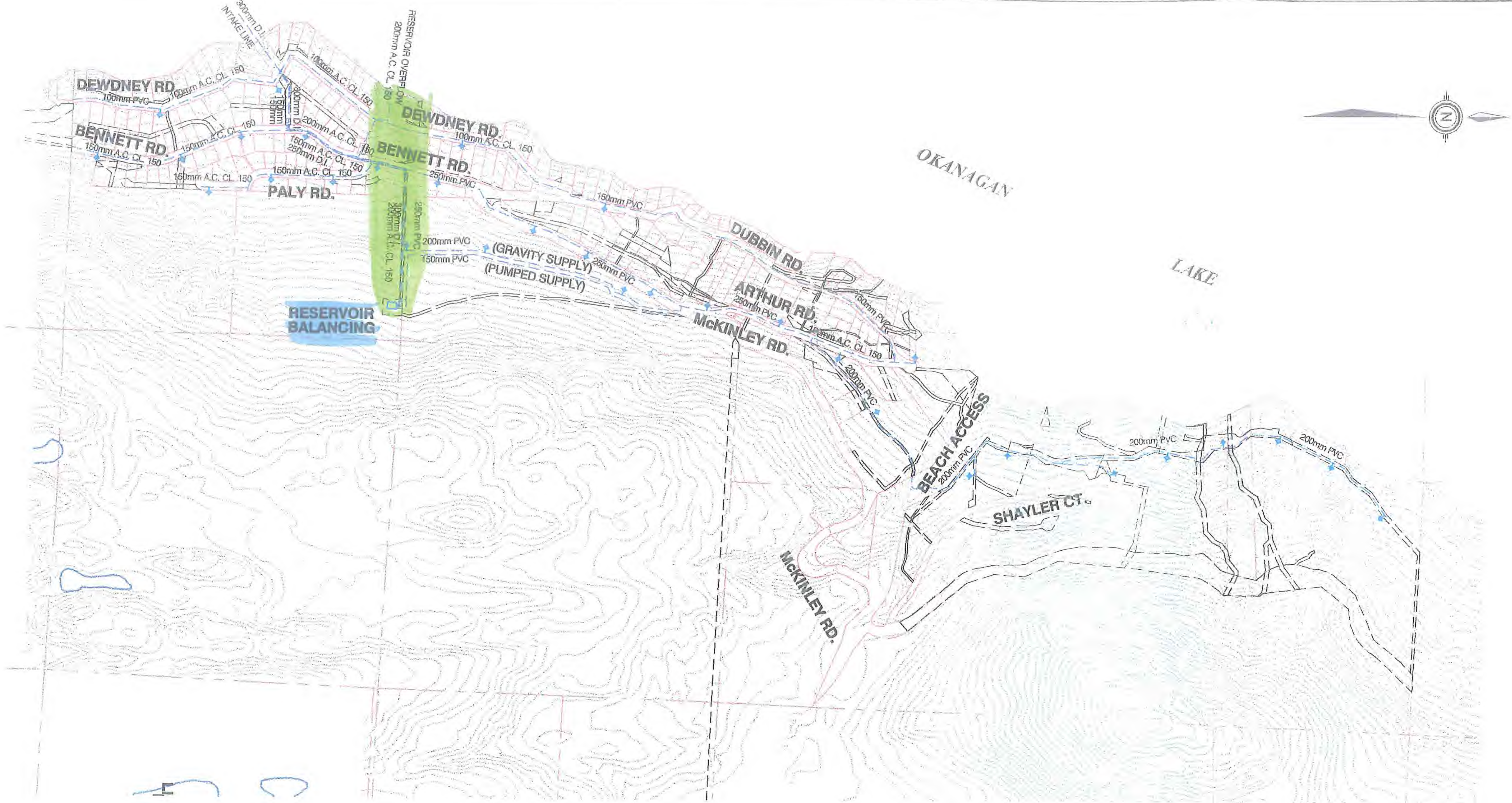
G.E.I.D.

Agua Consulting Inc.
"Engineered Water Solutions"



GLENMORE SYSTEM
FLOOD INUNDATION MAP
SCALE 1:25,000

Agua Consulting Inc.
"Engineered Water Solutions"



Possible Flooded Area if Reservoir
Failed at:

ARTHUR ROAD RESERVOIR

KERR WOOD LEIDAL
associates limited
CONSULTING ENGINEERS

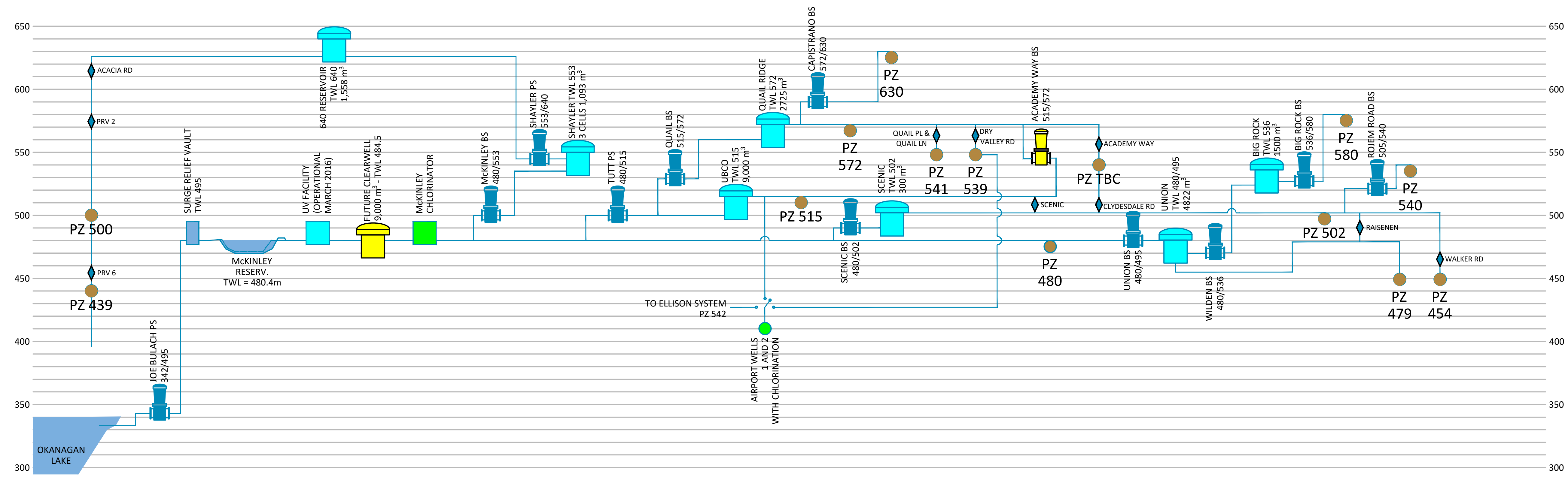
MLWW WATER SYSTEM EXISTING COMPONENTS

SCALE 1:10,000

FIGURE A-1

APPENDIX I

GEID WATER SYSTEM SCHEMATIC



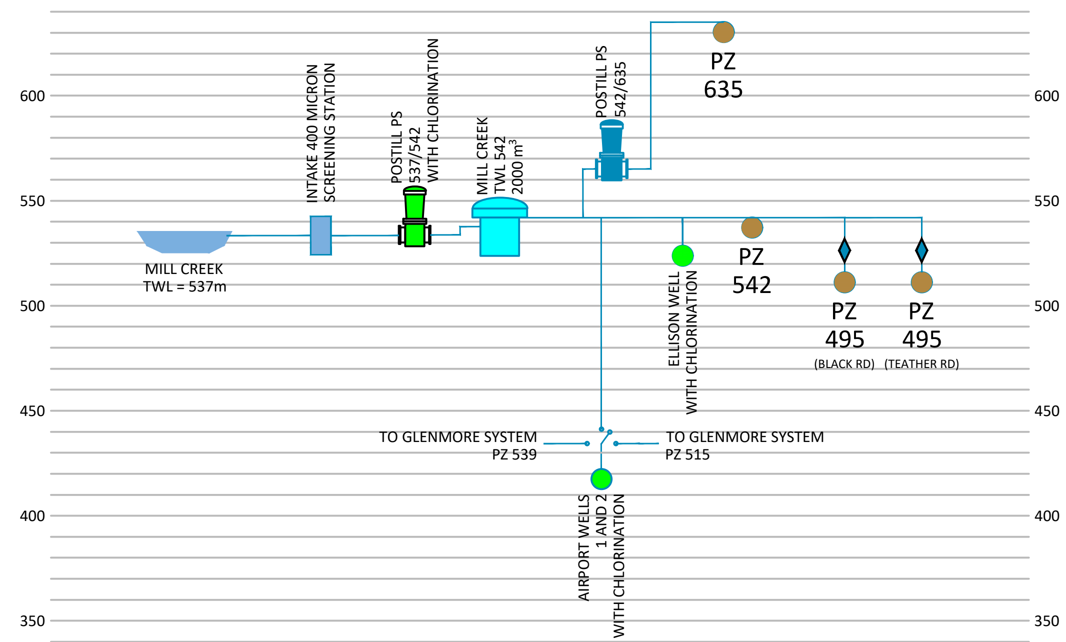
GLENMORE SYSTEM - SCHEMATIC PROFILE

NOTE:
FACILITIES WERE CHLORINE DISINFECTION IS CARRIED OUT ARE SHOWN IN GREEN. FACILITIES UNDER CONSTRUCTION OR CONSTRUCTION START WITHIN A YEAR ARE SHOWN IN YELLOW.

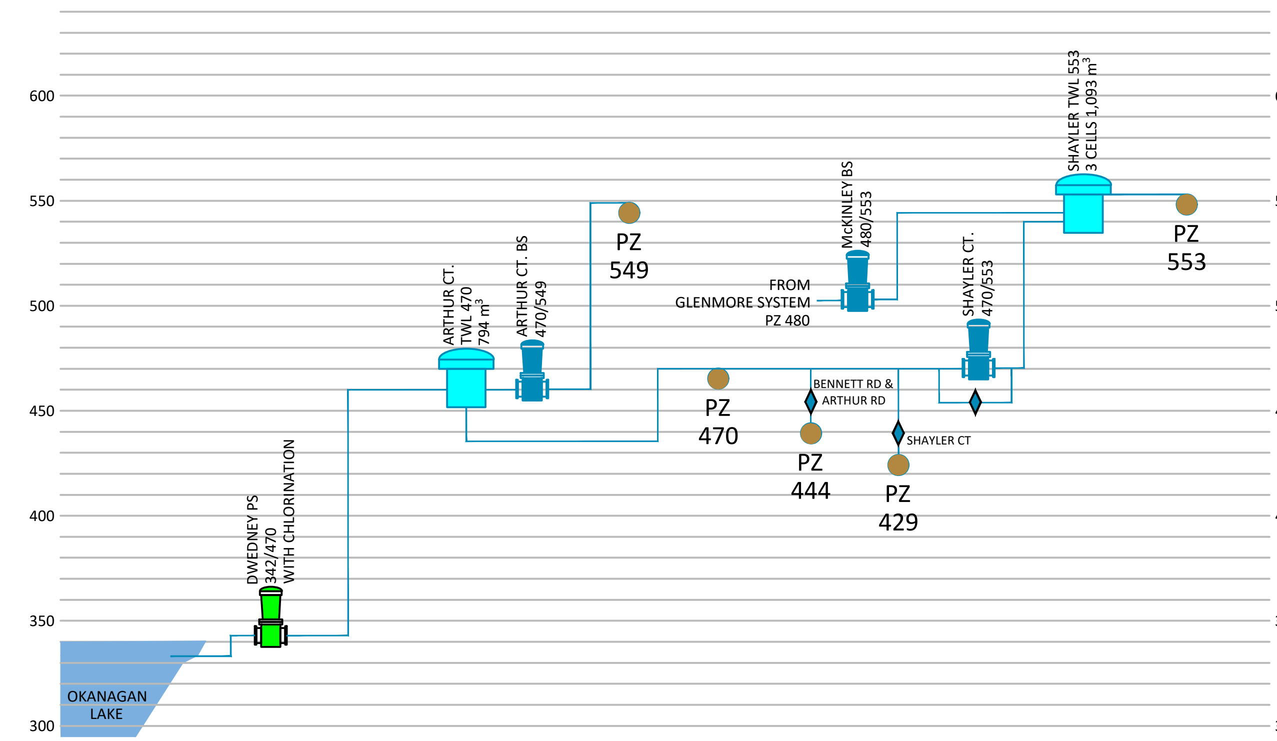
LEGEND:
- BOOSTER / PUMP STATION
- ENCLOSED RESERVOIR
- VALVE STATION
- PRESSURE ZONE
- OTHER FACILITIES
- VALVES ALLOWING SELECTION OF DISCHARGE PZ

TRUE NORTH

G.E.I.D. GLENMORE-ELLISON IMPROVEMENT DISTRICT



ELLISON SYSTEM - SCHEMATIC PROFILE



McKINLEY LANDING SYSTEM - SCHEMATIC PROFILE

FIGURE 2.5
GLENMORE-ELLISON IMPROVEMENT DISTRICT WATER DISTRIBUTION SYSTEM SCHEMATIC PROFILES

AF CONSULTING
Water & Environmental Engineering

APPENDIX J

REVISION SHEET

Glenmore–Ellison Improvement District
Emergency Response Plan Revision Sheet

Date	Page Number	Revision	Revised By	Sent To
December 9, 2008	1-2, 5,7,10-11,13, 15	Re–word System Overview. Delete company Golder Association.	Heather B.	
December 10, 2008	16-19,22,23,25-27,30-36,39-40,43	Update phone numbers, add employees, add companies and delete companies.	Heather B.	
December 11, 2008	Appendix D,E and F	Replaced with updated maps.	Heather B.	
June 23, 2009	Pages 25 and 33	Replace Dale Thomas with Bryn Lord.	Heather B.	
November 3, 2009	Pages 25, 33 and 45	Revised.	Heather B	
May 1, 2011	Complete	Update complete ERP.	Heather B.	
July 29, 2011	Title Page	Update as of July 1, 2011	Heather B.	
July 29, 2011	Page 7	Darwyn replaces Nancy as General Manager.	Heather B.	IHA
July 29, 2011	Page 10	Same as above.	Heather B.	
July 29, 2011	Page 23	Same as above.	Heather B.	
July 29, 2011	Page 24	Omit schools.	Heather B.	
July 29, 2011	Page 26	Darwyn replaces Nancy as General Manager, Drew – Operator Level IV, Joey – Operator Level III, Brandon – Operator Level II, Heather – home number change.	Heather B.	
July 29, 2011	Page 27	City of Kelowna rental removed.	Heather B.	
July 29, 2011	Page 31	Equipment and equipment contractors – alphabetically listed now.	Heather B.	
July 29, 2011	Page 32	Removed the word health at the bottom.	Heather B.	
July 29, 2011	Page 34	Removed websites for North Glenmore Community, McKinley Landing Residents Association and Quail Ridge Residents Association.	Heather B.	
July 29, 2011	Pages 35 – 42	Page numbering changed.	Heather B.	
July 29, 2011	Insert Appendix A – 1	Water Quality Notification call–out List.	Heather B.	
January 1, 2013		Changes to employees job status.	Heather B.	
June 18, 2014		Changes to employees job status.	Heather B.	
November 19, 2015		Changed Water Quality Deviation Response – other.	John B.	IHA
September 22, 2017	Complete	Update complete ERP.	Mihai Ion	

APPENDIX K

FUEL STORAGE CAPACITY

APPENDIX K - GEID Emergency Generators Fuel Storage Capacity and Refill Time

No.	Emergency Generator Location	Fuel Type used	KW Rating	Fuel Storage capacity	Unit	Consumption rate	Unit	Max. Refill Time after Start-up
1	Joe Bulach Pumpstation	Diesel	800	660	USG	53	USG/hr.	12 hr. Tank
2	McKinley UV Plant	Diesel	250	475	USG	19.6	USG/hr.	24 hr. Tank
3	Capistrano pumpstation	Diesel	125	655	USG	9.9	USG/hr.	24 hr. Tank
4	Big Rock Pumpstation	Nat. Gas		N/A - Grid Connected				N/A - if Nat. Gas supply available during the emergency
5	Academy Way Pumpstation	Diesel	450	900	USG	32.1	USG/hr.	24 hr. Tank
6	McKinley Chlorinator	Diesel	38	80	USG	3.7	USG/hr.	22 hr Tank
7	Postill Chlorinator	Diesel	50	60	USG	4.8	USG/hr.	12 hr Tank
8	Kelowna Creek Intake	Propane	30	2125	cuft	250	cuft/hr	8.6 Hrs

APPENDIX L

MINIMUM FIRE FLOW STORAGE CAPACITY

APPENDIX L

No.	Reservoir Name	Total Capacity (m^3)	Minimum Fire Storage Acceptable Capacity (m^3)	Percentage (%)
1	McKinley Clearwell	9,000.00	2,160.00	24.00%
2	UBCO	9,000.00	2,430.00	27.00%
3	Union	4,822.00	1,080.00	22.40%
4	Scenic	300.00	Operational	
5	Quail Ridge	2,725.00	1,080.00	39.63%
6	Postill	2,000.00	568.8	28.44%
7	Shayler	1,093.00	525.00	48.03%
8	Arthur Court	794.00	302.00	38.04%
9	640 (Phase 1)	1,558.00	1,080.00	69.32%
10	Big Rock	1,500.00	1,080.00	72.00%

APPENDIX M

STRATA INFORMATION AND CONTACTS

STRATA INFORMATION AND CONTACTS			Lifesyles, Kelowna Condo, Centre Group, Okanagan Strata Mgmt		
Strata Titled Units			**(LINKED)**		
Strata	**Account Number**	**Strata Name**	**Strata Address**	**Contact Name**	**Contact Number**
KAS 1944		**Strata Fourplex**	**156 Wynham Cr**	Denise Rafferty	250.717.2073
			Four units: 147, 156, 158 and 160		rafferty@gov.bc.ca
KAS 334	001 0000334 000	**Scenic Rd Condos**	**2161 SCENIC Rd**	Lawrence Schamerhorn	250.861.1821
	Eight rental units		**MF**		
KAS 854	001 0000854 000	**Glenmeadows**	**615 Glenmeadows Rd**	Lifestyles Condo Services	250.763.5446
		MF	**MF**		Fax: 250.763.5324
				Hugo Sturele	**250.763.2506**
KAS 916	001 0000916 000	**Orchardview Estates**	**450 Yates Rd**	Associa British Columbia, Inc.	250.860.5445
		SSF	**SSF**		Fax: 250.860.7227
					kcsltd_greg@uniserve.com
KAS 1000	001 0001000 000	**Sandpoint**	**595 Yates Rd**	Associa British Columbia, Inc.	250.860.5445
			SSF	Greg Smart	Fax: 250.860.7227
KAS 1125	001 9901125 000	**Regency Heights**	**555 Glenmeadows Rd**	Lifestyles Strata Management	778.436.9064
	Five rental units		**SSF**	Cisca Zahn	
KAS 1128	001 9901128 000	**Glenmore Fountains**	**1853 Edgehill Ave**	Okanagan Strata Mgmt	250.868.3383
	Two rental units		**MF**	Alex Longson	Fax: 250.861.4586
					alex@osm.to
KAS 1136	001 9901136 000	**Glenpine Ridge**	**452 Glenpine Crt**	Lifestyles Strata Management	250.763.5446
			SSF	Brock Little	250.763.5324
					brock@lifestylesstrata.ca
			Patrick Nykilchuk		
KAS 1192	001 9901192 000	**Grandview Estates**	**545 Glenmeadows Rd**	Associa British Columbia, Inc.	250.860.5445
			MF		kelownaoffice@associa.ca
KAS 1214	001 9901214 000	**Glen David**	**265 Glenmore Rd**	Colliers International	250.763.2300
			MF	Karen Connolly	Fax: 250.763.2107
KAS 1239	001 9901239 000	**Countryview Estates**	**6400 Spencer Rd**	Lifestyles Strata Management	250.763.5446
			SSF	Terry Hyland	Fax: 250.763.5324
				Donna Bugera (President)	778.753.1011
				Brad with IWW	250.550.3944
				Matt with Lenox-Interior Water Works	250.870.8580

STRATA INFORMATION AND CONTACTS			Lifesyles, Kelowna Condo, Centre Group, Okanagan Strata Mgmt		
Strata Titled Units			**(LINKED)**		
Strata	**Account Number**	**Strata Name**	**Strata Address**	**Contact Name**	**Contact Number**
KAS 1295	001 9901295 000	**The Orchards**	**445 Yates Rd**	Diane Johnson - Strata President	250.717.3566
			SSF		johnson5@shaw.ca
KAS 1310	001 9901310 000	**Orchard Brook Estates**	**400 Sutton Cr**	Associated Property Management	250.712.0025
	Sixteen rental units		**MF**	Dustin	Fax: 250.712.2365
					250.869.8797
		Dianne Clark			
KAS 1358	001 0001358 000	**Grandview Park**	**535 Glenmeadows Rd**	Lifestyles Strata Management	250.860.5445
	Two rental units			Gillian Preston	Fax: 250.763.5324
					778.436.9812
					gillian@lifestylesstrata.ca
KAS 1380	001 9901380 000	**Glen Oaks**	**160 Celano Cr**	Lifestyles Strata Management	778.436.9064
	Four rental units		**TH**	Cisca	Fax: 250.763.5324
					cisca@lifestylesstrata.ca
			Alex		
KAS 1397	001 9901397 001	**Glenpark**	**321 Whitman Rd**	Coldwell Banker	250.860.1411
			TH	Mike Makin	Fax: 250.860.9521
					m.makin@coldwellbanker.ca

STRATA INFORMATION AND CONTACTS			Lifesyles, Kelowna Condo, Centre Group, Okanagan Strata Mgmt		
Strata Titled Units			**(LINKED)**		
Strata	**Account Number**	**Strata Name**	**Strata Address**	**Contact Name**	**Contact Number**
KAS 1411	001 9901411 001	**Country Rhodes**	**6100 Old Vernon Rd**	Coldwell Banker	250.860.1411
		SSF	**SSF**	Mike Makin	Fax: 250.860.9521
					m.makin@coldwellbanker.ca
KAS 1506	001 9901506 001	**Wyndham Estates**	**133 Wyndham Cr**	Lifestyles Strata Management	250.763.5446
			MF	Cisca Zahn	778.436.9064
					cisca@lifestylesstrata.ca
KAS 1549	001 9901549 001	**Le Mirage**	**316 Whitman Rd**	Lifestyles Strata Management	250.763.5446
			MF	Cisca Zahn	778.436.9064
					Fax: 250.763.5324
					cisca@lifestylesstrata.ca
KAS 1554	001 9901554 001	**Chelsea Gardens**	**527 Yates Rd**	Okanagan Strata Management	250.868.3383
	Four rental units	**MF**	**MF**	Aliske	aliske@okstrata.com
KAS 1627	001 9901627 000	**Fiore Del Sole**	**2251-2365 Capistrano Dr**	Associa British Columbia, Inc.	250.860.5445
		MF	**MF**		kelownaoffice@associa.ca
KAS 1635	001 9901635 000	**Sandalwood**	**550 Yates Rd**	Lifestyles Strata Management	250.763.5446
				Sivona	Fax: 250.763.5324
KAS 1655	001 0991655 001	**Borgata**	**3185 Via Centrale**	Terry	250.765.0266
					Fax: 250.765.9520
					terry@kelownaaccountants.com
				Guy Scott (emergencies)	250.717.7754
KAS 1722	001 9901722 001	**Sienna Terrace**	**3179 Via Centrale**	Neil Green	250.491.2650
			TH		
KAS 1738	001 9901738 001	**Glenpark Meadows**	**313 Whitman Rd**	Coldwell Banker	250.860.1411
		Village		Mike Makin	Fax: 250.860.9521
					mmakin@coldwellbanker.ca
KAS 1754	001 9901754 001	**Chartwell**	**680 Glenmore Rd**	Okanagan Strata Management	250.868.3383
		SSF		Gordon Miller - Strata President	Fax: 250.861.4586

STRATA INFORMATION AND CONTACTS			Lifesyles, Kelowna Condo, Centre Group, Okanagan Strata Mgmt		
Strata Titled Units			**(LINKED)**		
Strata	**Account Number**	**Strata Name**	**Strata Address**	**Contact Name**	**Contact Number**
KAS 1801	001 9901801 001	**Allegro Mews**	**3006 Allegro Mews**	Joseph Kenward	778.753.2990
		SSF			
KAS 2321	001 9902321 001	**Casentino**	**1950 Capistrano Dr**	Associated Property Management	250.712.0025
		SSF		Jim Wiggins - Strata President	250.491.3928
					Fax: 250.712.2265
KAS 2437	001 9902437 001	**Maxwell Panorama**	**550 Glenmeadows Rd**	Sunwest Condo Services	250.861.3233
		MF			Fax: 250.712.9727
					sunwestcondos@shaw.ca
KAS 2485	001 9902485 001	**Brand'ts Creek**	**303 Whitman Rd**	Associated Property Management	250.712.0025
		Crossing			Fax: 250.712.2365
		MF		Bill Savage	250.448.4699
				Ed Hasydyk - Site Manager	250.864.7559
KAS 2617	0019902617 001	**College Heights**	**Hollywood Rd N**	Lifestyles Strata Management	250.763.5446
		MobileHome Park 1-73			250.212.6006

STRATA INFORMATION AND CONTACTS			Lifesyles, Kelowna Condo, Centre Group, Okanagan Strata Mgmt		
Strata Titled Units			**(LINKED)**		
Strata	**Account Number**	**Strata Name**	**Strata Address**	**Contact Name**	**Contact Number**
KAS 2843	001 9902843 000	**Ledgeview at Wilden**	**669 Longridge drive**	Okanagan Strata Management	250.868.3383
			Phase I Lots 1 - 4		Fax: 250.861.4586
	TH		**Billing for 14**		
		Registered	**Phase II Lots 5 & 6**		
		Registered	**Phase III Lots 7 & 8**		
		Registered	**Phase IV Lots 9 &10**		
		Registered	**Lots 11 and 12**	Phase 5	
		Registered	**Lots 13 and 14**	Phase 6	
KAS 2843 - 25 planned - Jan 07 all land used to 14 units					
KAS 2861	001 9902861 000	**Belaserra Tuscan Villas**	**1975 Country Club Dr**	Associated Property Management	250.712.0025
Aug 30/05		**TH**	**58 units registered**		Fax: 250.712.2265
		KAS 2861	**Billing for 58**		
KAS 2890	001 9902890 000	**Mill Creek Dev**	**7 - 215 Neave Road**	Okanagan Strata Management	250.868.3383
		Kevin Jersey			Fax: 250.861.4586
Oct 21/05		**KAS 2890**	**8 units - two storey commercial building**		
KAS 2955	001 9902955 000	**The Verve - MF**	**533 Glenmore Rd**	Associa British Columbia, Inc.	250.860.5445
and	KAS 2955	**59 Phase 1 - Registered**		Gary Noble	Fax: 250.860.7227
(A - KAP 76784)	KAS 2955	**64 - Stratified November 2, 2006**			kelownaoffice@associa.ca
	KAS 2955	**59 Phase II - Registered**			
	KAS 2955	**30**			
	KAS 2955	**30 units**			
	KAS 2955	**68 units**			
	A - 76784	**68 units**			
	A - 76784	**63 units**			

STRATA INFORMATION AND CONTACTS			Lifesyles, Kelowna Condo, Centre Group, Okanagan Strata Mgmt		
Strata Titled Units			**(LINKED)**		
Strata	**Account Number**	**Strata Name**	**Strata Address**	**Contact Name**	**Contact Number**
KAS 2983	001 9902983 000	**Strata Duplex**	**1871-1873 Millard Crt E**	Wong, Jeff and Alice	250.765.0085
					250.212.7322
1 - KAP 76952 and		**Ellios Mediterranen**	**218 Glenpark Dr**	Lifestyles Strata Management	250.763.5446
KAS 2990	001 9902990 000	**Villas**		Cisca Zahn - Strata Manager	778.436.9064
		TH			250.763.5324
		28 registered			cisca@lifestylesstrata.ca
KAS 3090	001 9903090	**Commercial Strata**	One building ten stratas	Peter Liscia	250.215.2687
		Lot 22 KAP 63302	220 Neave Rd		
KAP 63302	001 9903141 000	**Commercial Strata**	**2 Buildings, 5 St Units**	FR Lot 16, KAP63302	
KAS 3141		**Lougheed**	**1-5 240 Lougheed Rd**	Robert Hussey - email	bob@husseyfaubert.com
				Council President	
				862-4993	
				204-1912 Enterprise Way	
				Kelowna, BC V1Y 9S9	
KAS 3339	001 9903339 000	**Mosaic**	**1-36 1957 Kane Rd**	Coldwell Banker Strata Mgt Div	
				#102 - 1658 Commerce Ave	
				Kelowna, BC V1X 8A9	
			Betty Wiebe EXT 26		bwiebe@coldwellbanker.ca
Lot 1, Blk 3, Pl 896	000 0300896.001	**Pear Wood Corner**	**1-47 511 Yates Rd**	George Boychuk	
KAS 3348		**Bldg 1**	**1st bldg - 5 units**	1855A Watson Rd	- start up Sept. 4/07
		Bldg 2 & 3	**5 units each bldg**	Kelowna, BC V1V 1R3	
		Bldg 4 & 5	**5 units each bldg**		
		Bldg 6 & 7	**5 units each bldg**	250-762-5198	
		Bldg 8 & 9	**5 units each bldg**		
		Bldg 10	**2 units only**		
KAS 3373	001 9903373 000	**Yaletown**	**1-122 1475 1483 Glenmore Rd N**		
		Bldg 1 & 2	**28 units**	Okanagan Strata Mgmt	250.868.3383
		Phs 3 - Bldg 4	**34 units**	#201 - 1475 Ellis St	Fax: 250.861.4586
		Phs 4 - Bldg 3	**36 units**	Kelowna, BC V1Y 2J5	
		Phs 5 - Bldg 5	**23 units**	William	willy@osm.to
KAS 3415	001 9903415 000	**T190 Enterprises**	**1-9 Neave Ct**	435 Neave Ct	250.765.6714
Lot 11, KAP 63302		**Commercial Strata**		Kelowna, BC V1V 2M2	
				Dora & Todd Gronsdahl	
KAS 3416	001 9903416 000	**0731411 BC Ltd**	**5405 Innovation Dr**	Chris Bayne / Gux Albrecht	250.470.8887
from Lot 11, KAP 82802		**awaiting occupancy**		3213 Malbec Cr	

STRATA INFORMATION AND CONTACTS			Lifesyles, Kelowna Condo, Centre Group, Okanagan Strata Mgmt		
Strata Titled Units			**(LINKED)**		
Strata	**Account Number**	**Strata Name**	**Strata Address**	**Contact Name**	**Contact Number**
				Westbank, BC V4T 3B5	
KAS 3419	001 9903419 000	**Glen Park Estates**	**1-32 225 Glen Park Dr**	Kelowna Condo Services	250.860.5445
		Phs 1, Bldg A	**Units 1 - 4**	#215 - 1511 Sutherland Ave	Fax: 250.860.7227
		Bldg B	**Units 5 - 8**	Kelowna, BC V1Y 5Y7	
		Bldg C	**Units 9 - 12**	Al MacKenzie	kcsltd_al@uniserve.com
		Phs 4, Bldg D	**Units 13 & 14 no occupancy**		
		Bldg E	**Units 15 - 18**		
KAS 3430	001 9903430 000	**Pinnacle Point**	**1-165 1873 1875 Country Club Dr**		
from Lot B, KAP 76105		**Phs 1**	**82 units**	Okanagan Strata Mgmt	250.868.3383
		Phs 2	**83 units**	#201 - 1475 Ellis St	Fax: 250.861.4586
				Kelowna, BC V1Y 2J5	250.258.9955
				Willy Kovacic	willy@osm.to
Lot A, KAP 75623	001 9903545 000	**Valley 1st Credit Union**		C/O 653332 BC Ltd	
stratified to Lots 1 - 5, KAS 3545.				966 Fairway Cr	
				Kelowna, BC V1Y 4S7	250.762.4929
KAP 53788	001 9953788.991	Desert Breeze Hsg Co-Op- SEE APT-MHP sheet		Lot A Plan KAP53788	
		NOT STRATA however are townhouses		**Marsha Greig Email**	desertbreeze@telus.net

APPENDIX N

FEDERAL REGISTRATION WITH ENVIRONMENT AND CLIMATE CHANGE CANADA-MCKINLEY AND POSTILL CHLORINATOR SITES

Need to make a change or correction?
If you need to update your contact information, make a change (e.g., add a substance) or correction to an existing notice, please contact your Environment and Climate Change Canada Regional Office for assistance. Please do not create a new ID and submit a new notice.

Please print and sign the following Notice and mail or fax it to the Environmental Emergencies Office in your region identified below:

Pacific and Yukon Region (British Columbia, Yukon)

Compliance Promotion - Environmental Emergencies Program
Pacific and Yukon Region
Environment and Climate Change Canada
201-401 Burrard Street
Vancouver, British Columbia, V6C 3S5
Phone: 1-800-668-6767
Fax: 604-666-6800
Email: ec.lcpeue-pyr-cepae2-pyr.ec@canada.ca

To submit subsequent notices, you will need to use this password: **912ed9e4**. Please keep it in a safe place.

Environment Canada   Environnement Canada

Notice ID: E2-ID12941

Schedule 2

(Subsections 3(1), (4) and 4(1))

INFORMATION TO BE SUBMITTED IN THE NOTICE REGARDING THE IDENTIFICATION OF SUBSTANCE AND PLACE

Thank you for your submission of the following material, as required under Section 200 of the CEPA and published in Part II of the Canada Gazette on December 21, 2011:

Notice of Identification of Substance and Place

This information was transmitted to us on 2017-11-15.

We are currently reviewing this information and will be in contact if any follow-up material is required or if the declaration submitted is incomplete.

Please note that as these notices are legal documents you must mail or fax a signed copy to your Environment and Climate Change Canada Regional Office. Failure to do so is non-compliance with the Environmental Emergency Regulations and may result in enforcement action. The date that the signed documents are received is the official date of reception of your notice. The fax number and address are provided above.

Thank you for your prompt attention to this matter. If you wish to further discuss, please contact Environment and Climate Change Canada's Regional Environmental Emergencies Coordinator at ec.lcpeue-cepae2.ec@canada.ca.

Director
Environmental Emergencies Division
Environment and Climate Change Canada

1.0 Place where one or more substances are located

Facility Location

Facility Name:	Glenmore-Ellison Improvement District - McKinley Chlorinator
Street number:	2248
Street name:	McKinley Road
City:	Kelowna
Province:	British Columbia
Postal Code: (Format: A9A 9A9)	V1V 2B7
Latitude:	49.9700
Longitude:	-119.4272

Mailing Address

Street number:	445
Street name:	Glenmore Road
City:	Kelowna
Province:	British Columbia
Postal Code: (Format: A9A 9A9)	V1V 1Z6

Primary Contact

Name:	~~Ian Wilks~~ TBD
Title:	General Manager
Phone: (Format: 999-999-9999 x9999)	250-763-6506
Fax: (Format: 999-999-9999 x9999)	250-763-5688
Email:	iwilks@geid.org

Alternate Contact

Name:	Mike Rojem
Title:	Projects Coordinator
Phone: (Format: 999-999-9999 x9999)	250-763-6506
Fax: (Format: 999-999-9999 x9999)	250-763-5688
Email:	mrojem@geid.org

2.0 Head office (if different from facility)

Facility Location

Facility Name:	Glenmore-Ellison Improvement
Street number:	445
Street name:	Glenmore Road
City:	Kelowna
Province:	British Columbia
Postal Code: (Format: A9A 9A9)	V1V 1Z6
Latitude:	49.9141
Longitude:	-119.4466

Primary Contact

Name:	~~Ian Wilks~~ TBD
Title:	General Manager
Phone: (Format: 999-999-9999 x9999)	250-763-6506
Fax: (Format: 999-999-9999 x9999)	250-763-5688
Email:	iwilks@geid.org

Alternate Contact

Name:	Mike Rojem
Title:	Projects Coordinator
Phone: (Format: 999-999-9999 x9999)	250-763-6506
Fax: (Format: 999-999-9999 x9999)	250-763-5688
Email:	mrojem@geid.org

3.0 Substance(s) Located at the Place

Part 2 - Substance(s) hazardous when inhaled

Name of the Substance	CAS Registry Number	UN Number (if applicable)	Maximum Expected Quantity of the Substance (tonnes) at any Time During the Calendar Year	Maximum Capacity of the Largest Container in which the Substance is Stored	Concentration of the Substance within the Mixture (if applicable)
chlorine	7782-50-5	1017	7.257	0.9072	100

Environment Canada / Environnement Canada

Notice ID: E2-ID12941

Schedule 3

(Subsections 3(6), 4(5) and 5(2))

CERTIFICATION

I hereby certify that the information provided with respect to Schedule 2 to the Environmental Emergency Regulations is accurate and complete.

____
(Signature of the person or duly authorized representative)

Name (please print) MIHAI ION

Title MANAGER OPERATIONS & ENGINEERING

Date Nov 15, 2017

Need to make a change or correction?
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Compliance Promotion - Environmental Emergencies Program
Pacific and Yukon Region
Environment and Climate Change Canada
201-401 Burrard Street
Vancouver, British Columbia, V6C 3S5
Phone: 1-800-668-6767
Fax: 604-666-6800
Email: ec.lcpeue-pyr-cepae2-pyr.ec@canada.ca

To submit subsequent notices, you will need to use this password: **c73f588e**. Please keep it in a safe place.

Environment Canada Environnement Canada

Notice ID: E2-ID12942

Schedule 2

(Subsections 3(1), (4) and 4(1))

INFORMATION TO BE SUBMITTED IN THE NOTICE REGARDING THE IDENTIFICATION OF SUBSTANCE AND PLACE

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Thank you for your prompt attention to this matter. If you wish to further discuss, please contact Environment and Climate Change Canada's Regional Environmental Emergencies Coordinator at ec.lcpeue-cepae2.ec@canada.ca.

Director
Environmental Emergencies Division
Environment and Climate Change Canada

1.0 Place where one or more substances are located

Facility Location

Facility Name:	Glenmore-Ellison Improvement District - Postill Pumpstation and Chlorinator
Street number:	6268
Street name:	Postill Lake Rd.
City:	Kelowna
Province:	British Columbia
Postal Code: (Format: A9A 9A9)	V1X 7V3
Latitude:	49.9735
Longitude:	-119.3544

Mailing Address

Street number:	445
Street name:	Glenmore Road
City:	Kelowna
Province:	British Columbia
Postal Code: (Format: A9A 9A9)	V1V 1Z6

Primary Contact

Name:	~~Ian Wilks~~ TBD
Title:	General Manager
Phone: (Format: 999-999-9999 x9999)	250-763-6506
Fax: (Format: 999-999-9999 x9999)	250-763-5688
Email:	iwilks@geid.org

Alternate Contact

Name:	Mike Rojem
Title:	Projects Coordinator
Phone: (Format: 999-999-9999 x9999)	250-763-6506
Fax: (Format: 999-999-9999 x9999)	250-763-5688
Email:	mrojem@geid.org

2.0 Head office (if different from facility)

Facility Location

Facility Name:	Glenmore-Ellison Improvement
Street number:	445
Street name:	Glenmore Road
City:	Kelowna
Province:	British Columbia
Postal Code: (Format: A9A 9A9)	V1V 1Z6
Latitude:	49.9141
Longitude:	-119.4466

Primary Contact

Name:	~~Ian Wilks~~ TBD
Title:	General Manager
Phone: (Format: 999-999-9999 x9999)	250-763-6506
Fax: (Format: 999-999-9999 x9999)	250-763-5688
Email:	iwilks@geid.org

Alternate Contact

Name:	Mike Rojem
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Phone: (Format: 999-999-9999 x9999)	250-763-6506
Fax: (Format: 999-999-9999 x9999)	250-763-5688
Email:	mrojem@geid.org

3.0 Substance(s) Located at the Place

Part 2 - Substance(s) hazardous when inhaled

Name of the Substance	CAS Registry Number	UN Number (if applicable)	Maximum Expected Quantity of the Substance (tonnes) at any Time During the Calendar Year	Maximum Capacity of the Largest Container in which the Substance is Stored	Concentration of the Substance within the Mixture (if applicable)
chlorine	7782-50-5	1017	7.257	0.9072	100

Environment Canada Environnement Canada

Notice ID: E2-ID12942

Schedule 3

(Subsections 3(6), 4(5) and 5(2))

CERTIFICATION

I hereby certify that the information provided with respect to Schedule 2 to the Environmental Emergency Regulations is accurate and complete.

____
(Signature of the person or duly authorized representative)

Name (please print) MIHAI IOH

Title MANAGER OPERATIONS & ENGINEERING

Date Nov. 15, 2017

McKinley Reservoir 2015 Report – Second Year with Okanagan Lake Inflows

Prepared for Glenmore-Ellison Improvement District:

Larratt Aquatic Consulting, 3025 Ensign Lane, West Kelowna, B.C. V4T 2Z4

Phone: 250.769.5444 Fax: 250.769.3233 Email: heather@larratt.net

Executive Summary

Use of Okanagan Lake water in McKinley Reservoir alleviated the concerns and issues associated with using high colour, high nutrient water from the upper elevation reservoirs. Historically, the primary source of colour to McKinley Reservoir was organic molecules and iron imported by Mill Creek water. Within McKinley Reservoir, colour was contributed by the bottom anaerobic zone and by algae. Episodes of poor quality water leaving McKinley Reservoir related to its anaerobic zone. In 2015, inflows were exclusively from Okanagan Lake and significant improvements in water quality occurred. They are summarized in Table 1. With the change in water supply, water temperature, turbidity, colour, algae growth, water transparency and anaerobic development all improved dramatically despite the recent construction and in-filling of two bays. A late fall algae bloom caused a minor reduction in water quality and required treatment with $CuSO_4$.

Table 1: Comparison of Water Quality in McKinley Reservoir

Parameter	McKinley up to 2013	McKinley in 2014 - 2015
Peak surface temperature	>25 °C for 2 weeks, >20 °C for 6-15 weeks Max = 27.1 °C in July 2013	> 20 °C for 2 weeks Max = 22.09 °C on Jun 8, 2015
Turbidity and colour at 8-9m	Turbidity avg = 2.27 ± 0.83 NTU Colour: avg 80 ± 36 ACU from 2010-2013.	Turbidity: 1.51 ± 0.95 NTU Colour: 21 ± 14 ACU
Total algae counts at surface (inc.. blooms)	High algae counts 1612 ± 2144 cells/mL every summer with blooms to >10,000 cells/mL	Average surface 2015 1079 ± 1451 cells/mL with a brief *Dinobryon sp*. and *Cyclotella sp.* bloom on Sept 13, 2015 to 7990 cells/mL
Typical algae counts (not during bloom)	702 ± 487 cells/mL	927 ± 575 cells/mL
Algae counts in blooms	3901 ± 2222 cells/mL maximum = 12,320 cells/mL	4371 ± 2089 cells/mL maximum = 7990 cells/mL
Secchi depth	2.2 ± 0.6 m from 2002-2013	4.3 ± 1.3 m
pH	pH ranged 7.2-9.6 at 0 m and 5.8-7.5 in deep water with decomposition	pH ranged from 6.9 to 8.8 in 2015 Average: 8.0 ± 0.4
Anaerobic zone	Anaerobic zone up to 5 m thick	Not more than 2 m thick during 2014 or 2015
Fall fishy taste and odor	Periodic occurrence with *Peridinium* or *Dinobryon* blooms	Did not occur in 2014 or 2015
Winter	During the winter, water quality in McKinley Reservoir deteriorates near the sediments	Water column remained partially aerobic throughout the 2013/14 and 2014/15 winters.
Distribution system	High colour/turbidity/iron from McKinley continue to cause problems in GEID's distribution system 2012-2013 turbidity avg: 2.43 ± 1.21 NTU 2012-2013 colour avg 56 ± 23 ACU	Colour dropped substantially throughout 2015 turbidity 1.40 ± 0.30 NTU 2015 colour 17 ± 7 ACU

Turbidity
Despite ice cover in winter 2015/6, turbidity remained above 1 NTU. This is with completely still water beneath the ice. GEID maintained the water level in McKinley above the critical threshold established during the 2014 turbidity event of 27’6” and turbidity remained below 2 NTU throughout the year.

Distribution System Historically, viable Iron bacteria (IRB) from McKinley Reservoir bottom water contributed to bio-fouling in the GEID distribution pipelines. Material from line flushing consists of 50% precipitated metals and 50% organic algae/bacteria. Line flushing was required still required in 2014 while sloughing of the old iron-related biofilm from the distribution system occurred. In its second year since the source water change, line flushing was required but biofilms were reduced.

Total THMs measured at GEID’s office lab averaged 0.203 ± 0.078 mg/L from 2007-2013 and were 0.082 ± 0.008 mg/L in 2014-2015 (T-THM objective is 0.1 mg/L). Total coliforms were detected in treated water from McKinley Reservoir in 2013-2015. Total coliforms were detected on 6 dates in 2014 with a maximum of 11 CFU/100mL on May 20. During 2015 with less biofilm, these numbers were 4 detections with a maximum of only 1 CFU/100mL.

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List of Figures and Tables

Disclaimer: This report is based on limited, cost-constrained research on a complex aquatic system. Larratt Aquatic Consulting Ltd and its associates have striven for accuracy in data collection and presentation. No liability is incurred by LAC or GEID for accidental omissions or errors made in the preparation of this report.

Acknowledgements: LAC would like to acknowledge the assistance of GEID staff in providing some of the data needed for this report: Andrew Cammell, Mike Rojem and Darwyn Kutney

Suggested Citation: Self, J. and H. Larratt 2015. McKinley Reservoir 2015 Report – First year with Okanagan Lake Inflows. Prepared for: Glenmore Ellison Improvement District.

Report prepared by: Larratt Aquatic Consulting Ltd.

Heather Larratt: Aquatic Biologist, H. B.Sc. R.P. Bio

Jamie Self: Aquatic Biologist, H. B.Sc. R.P.Bio

1.0 Introduction

1.1 Background

Beginning in 2014, Okanagan Lake replaced Mill Creek as the primary source of water into McKinley Reservoir. Water in McKinley Reservoir is extracted from intakes at either 8 - 9 m or 11 -12 m depth, chlorinated, and distributed to the GEID system. Historically, water quality concerns for GEID include water colour, turbidity, bio-fouling, and occasional algae-driven autumn taste and odor events in McKinley Reservoir.

1.2 Goals of 2015 Study

1) Monitor algae weekly in McKinley Reservoir from April to October and advise GEID of results and if/when copper sulphate applications are needed.

2) Monitor inflow of Okanagan Lake water into McKinley Reservoir and map its travel path

3) Determine effect of new inflow in reservoir thermal stratification and their combined effect on turbidity

4) Determine which algae and other particulates are imported with Okanagan Lake water and which are internally generated in McKinley Reservoir.

5) Continue with system of weekly update reports that was instituted in 2012 to more effectively inform GEID staff of the current status of McKinley Reservoir.

6) Interpret water quality data from the GEID system with respect to current drinking water guidelines, water colour, and algae production.

7) Identify opportunities to reduce turbidity in McKinley Res.

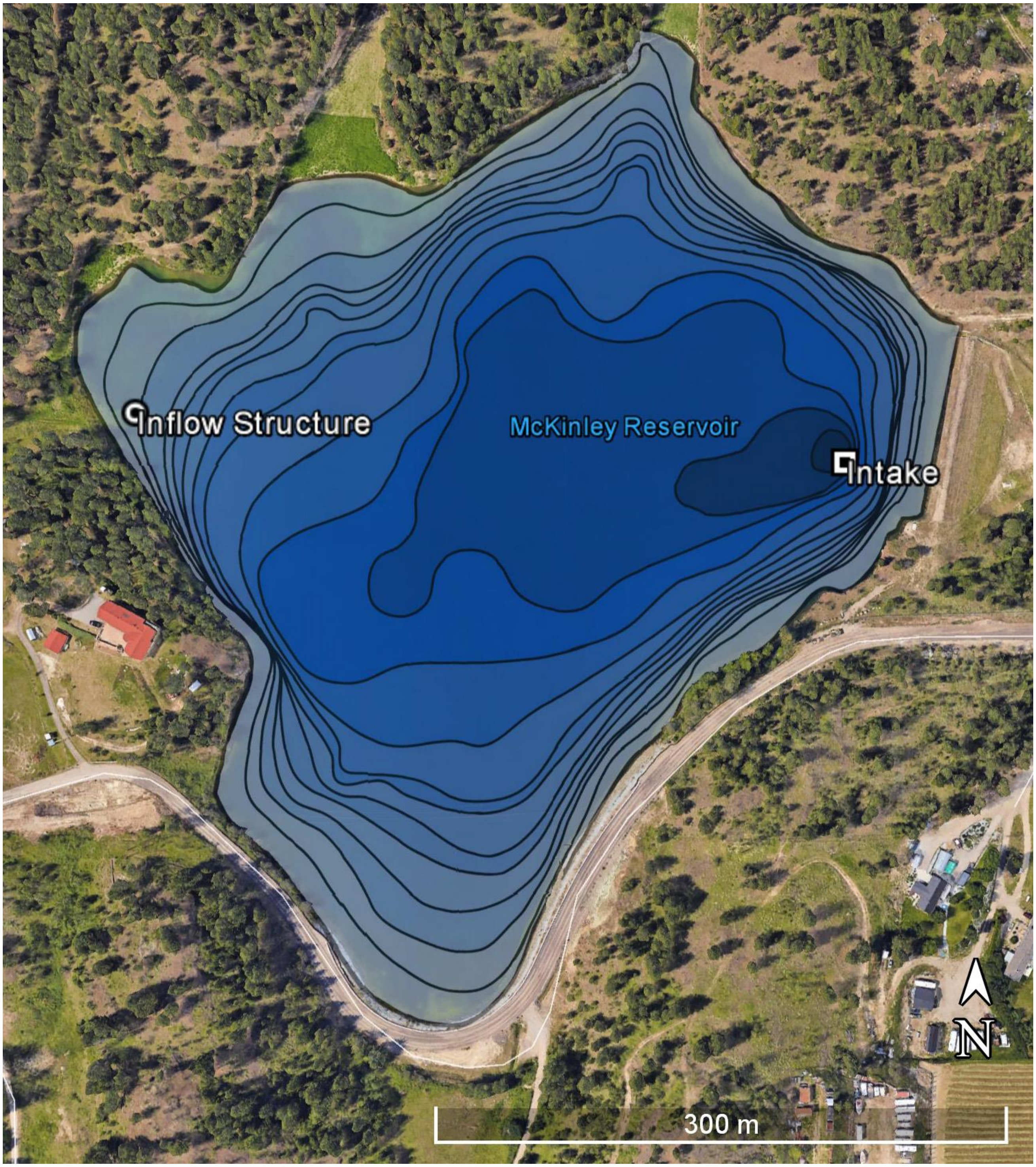

Figure 1.1-1: Map of McKinley Reservoir showing bathymetry and sample sites
Note: Depth isoclines at 1 m intervals

1.3 Definitions

Glossary: The following terms are defined as they are used in this report.

Term	Definition
Aerobes	Organisms that require >1-2 mg/L dissolved oxygen in their environment
Accrual rate	A function of cell settlement, actual growth and losses (grazing, sloughing)
Algae bloom	A superabundant growth of algae
Anaerobic/anoxic	Devoid of oxygen
Benthic	Organisms that dwell in or are associated with the sediments
Bioaccumulation	Removal of metal from solution by organisms via adsorption, metabolism
Bioavailable	Available for use by plants or animals
Cyanobacteria	Bacteria-like algae having cyanochrome as the main photosynthetic pigment
Diatoms	Algae that have hard, silica-based "shells" frustules
Fall overturn	Surface waters cool and sink, until a fall storm mixes the water column
Eutrophic	Nutrient-rich, biologically productive water body
Green algae	A large family of algae with chlorophyll as the main photosynthetic pigment
Inflow plume	A creek inflows seeks the layer of matching density in a receiving lake, mixing and diffusing as it travels; cold, TSS, and TDS increase water density
Light attenuation	Reduction of sunlight strength during transmission through water
Limitation,nutrient	A nutrient will limit or control the potential growth of organisms e.g. P or N
Limnology	The study of the physical, chemical, and biological aspects of freshwater
Littoral	Shoreline between high and low water; the most productive area of a lake
Macronutrient	The major constituents of cells: nitrogen, phosphorus, carbon, sulphate, H
Micronutrient	Small amounts are required for growth; Si, Mn, Fe, Co, Zn, Cu, Mo etc.
Microflora	The sum of algae, bacteria, fungi, *Actinomycetes,* etc., in water or biofilms
Myxotrophic	Organisms that can be photosynthetic or can absorb organic materials directly from the environment as needed
Pelagic	Open water deeper than 6 meters in a reservoir or lake (less productive)
Peak biomass	The highest density, biovolume or chl-a attained in a set time on a substrate
Periphyton	Algae that are attached to aquatic plants or solid substrates
Phytoplankton	Algae that float, drift or swim in water columns of reservoirs and lakes
Photic Zone	The zone in a water body that receives sufficient sunlight for photosynthesis
Plankton	Those organisms that float or swim in water
Reclamation	A restoration to productivity and usefulness
Redox	The reduction (-ve) or oxidation (+ve) potential of a solution
Reducing env.	Devoid of oxygen with reducing conditions (-ve redox) eg. swamp sediments
Residence time	Time for a parcel of water to pass through a reservoir or lake (flushing time)
Riparian	The interface between land and a stream or lake
Secchi depth	Depth where a 20 cm secchi disk can be seen; measures water transparency
Seiche	Wind-driven tipping of lake water layers in the summer, causes oscillations
Thermocline	The lake zone of greatest change in water temperature with depth (> 1ºC/m); it separates the surface water (epilimnion) from the cold hypolimnion below
Zooplankton	Minute animals that graze algae, bacteria and detritus in water bodies

Lake Classification by Trophic Status Indicators

Trophic Status	chlorophyll-a ug/L	Total P ug/L	Total N ug/L	Secchi disc m	primary production mg C/m^2/day
Oligotrophic	0 – 2	1 – 10	<100	> 6	50- 300
Mesotrophic	2 – 5	10 – 20	100 – 500	3 – 6	250 – 1000
Eutrophic	>5	> 20	500-1000	< 3	>1000

Nutrient Balance Definitions for Microflora (Dissolved Inorganic N : Dissolved Inorganic P)

Phosphorus Limitation	Co-Limitation of N and P	Nitrogen Limitation
>15 : 1	<15 : 1 – 5 : 1	5 : 1 or less

After Nordin,1985

1.4 Information on Statistical Analysis
Statistical analyses were performed on data to support claims made throughout this report. The use of the word 'significantly' within this report is understood to signify that the claim being made has stood up under statistical analysis. Unless otherwise stated all statistical analysis were performed to a confidence of 95% ($p \leq 0.05$). The ± symbol indicates the standard deviation throughout this report.

2.0 Results and Discussion

2.1 Limnology

2.1.1 McKinley Reservoir Background:
The theoretical retention time of McKinley Reservoir at full pool is 25-40 days during the summer and 3-4 months in the winter. Its maximum depth is 12.5 m and its full pool volume is 1159 ML. Water is extracted from the old (lower) intake at 470.24 m perched 2 m above the substrate. GEID's newer (shallower) intake extracts water from 2 m above the lower intake at 472.26 m. The new intake was positioned further away from the inflow to reduce short-circuiting with the creek inflow (Figure 1.1-1). Historically, McKinley Reservoir was fed by inflow from Mill Creek and by well water but in 2014, inflowing water came only from Okanagan Lake.

The diffuser structure on the inflow from Okanagan Lake caused rapid mixing of the inflow. A wasting siphon line that collects McKinley water from the deepest area under the intakes was installed in 2004. It wastes about 70 - 110 L/min and is used during the stratified summer period. The lower discharge volumes were used to avoid flooding an adjacent property.

From 2008-2010, a simple compressor-driven bubbler line aerator positioned 1.5 m off the substrate (to prevent sediment suspension) was employed to restrict thermal layering. The aerator lifted cold, deep water to the surface for gas exchange before it sank back. The aerator was not used regularly since 2011 because although it decreased water colour, it increased turbidity.

McKinley Reservoir was drawn down in the fall of 2013 for shoreline re-construction (Table 2.2.1). Two shallow arms on the north side of the reservoir were filled in, and some infill occurred along the McKinley Rd re-alignment. This reduced the total volume of the reservoir but also eliminated water pooling in the shallow organic- rich north arms. The net effect should be positive on water quality in the long term, however the new material will have to settle.

Table 2.1-1 provides a summary of the major events that affected water quality in McKinley Reservoir.

Table 2.1-1: McKinley Reservoir, history of events: 2002-2015

Year	Event(s)
2002	-Very hot dry year led to thermal instability (high inflows and outflows) -*Peridinium* bloom treated twice through summer
2003	-4" siphon pipe installed on September 19 to drain bottom anaerobic layer -Very hot dry year led to thermal instability (high inflows and outflows) -Cyanobacteria bloom treated and other algae blooms treated 3 times through summer
2004	-Algae blooms treated 3 times through summer
2005	-New shallower intake operational -Algae blooms treated 3 times through summer
2006	-Algae blooms treated 4 times through summer
2007	-Construction of automated Mill Creek headgate -Algae blooms treated 3 times through summer
2008	-Automated Mill Creek headgate operational -Aerator installed and began operation -Algae blooms treated twice through summer
2009	-Aerator used -Filamentous green and *Peridinium* bloom treated 3 times through the summer -Highest algae concentrations to date (12,320 cells/mL on Sept 16)
2010	-Aerator used -Algae blooms treated 4 times through the summer
2011	-Road construction along south shore -Water level drawn down in the fall -New Okanagan Lake Intake installed during low water level period in the winter
2012	-Major freshet prevented re-filling of McKinley until mid-July -Cyanobacteria bloom treated in August -Aerator used for 3 weeks in September
2013	-Water level drawn down through the fall, water wasting in place -Shallow north arms filled in -Small amount of Okanagan Lake water added to McKinley Reservoir in the fall
2014	-Inflow water switched to Okanagan Lake -First year with infilled north arms on reservoir -Anaerobic drain/siphon used -Pilot plant for fine screens conducted -Major turbidity event in November, source isolated to shallow bay and new infill in NW corner of reservoir
2015	-non-stratified conditions lasting longer with Okanagan Lake inflow, providing increased oxygen to bottom water -elevated turbidity >1 NTU during non-stratified period -algae blooms treated 5 times (non-problem species) -construction efforts began on the new treatment plant and by-pass line in July 2015 -bypass pipeline installed (not yet operational)

2.1.2 Water Temperature and Dissolved Oxygen

Prior to the Okanagan Lk inflows in 2014, intake water temperatures exceeded 20°C periodically during the summer months every year. A hot (>22°C) surface layer 1-2 m thick formed every summer and reached a record high of 27.1°C in July, 2013. Since 2014, surface water temperatures were much cooler in summer, briefly reaching only 22.1 °C in June 2015. This is because the inflowing water was cooler in summer, and because water colour was much lower (Figure 2.1-1). Destratification commenced in early October in 2014 and on September 21 2015 after an intense wind storm the previous day. Further, in mid-June 2015 during an abrupt change in weather with strong wind gusts, during which the reservoir water column partially mixed. This will return nutrients to the surface water and encourage algae blooms.

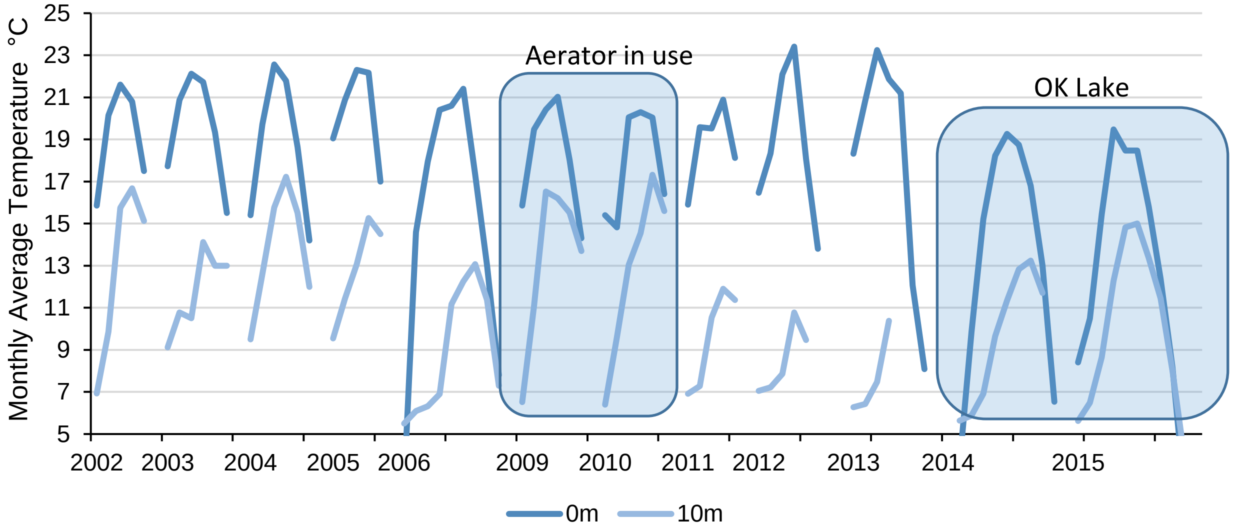

Figure 2.1-1: Average monthly water temperatures at 0m and 10m in McKinley Reservoir, 2002-2015

Since 2009, ice-on has ranged from November 30th to December 15th and ice-off has ranged from February 12th to Mar. 26th. With climate change the date of ice-off may advance. In 2015, McKinley ice-off was March 5. Every year, the reservoir demonstrated classic inverted winter stratification where the surface of McKinley was 0.36 – 0.89°C immediately below the ice, and warmed to 5.6°C at the base of the water column in the groundwater layer. Because the bottom groundwater layer was warmer than 3.98°C (maximum density of water), it indicates that this layer has enough dissolved substances in it to raise its conductivity by >50 µS/cm to 340-360 µS/cm (winter 2014 data).

Detailed winter monitoring was conducted in 2014 to help understand the changes in thermal behaviour. Under ice, the bottom water cooled with Okanagan Lake inflows from 5.5 °C in January to 4.1 °C on February 25th at the monitoring site near the inflow, but was unchanged at the site near the McKinley intake. Instead of dropping steadily under the ice, dissolved oxygen climbed near the oxygenated Okanagan Lake inflow, however, it dropped to 22-13% at the McKinley intake area. The inflows were able to avert anoxic conditions reaching the intakes in March 2014 and 2015, unlike the years with creek inflow.

Ice cover prevents turbulence but it also limits gas exchange, allowing anaerobic conditions near the sediments despite the cold water temperatures. The severity of the winter oxygen depletion and resultant water quality problems depend on:

- the duration of ice cover
- transmission of light through the ice to support photosynthesis
- addition of low oxygen well water (Okanagan Lake water has high oxygen concentrations)
- seepage of groundwater into the bottom water layer

The switch to Okanagan Lake water prevented fully anaerobic conditions under ice cover in both 2014 and 2015.

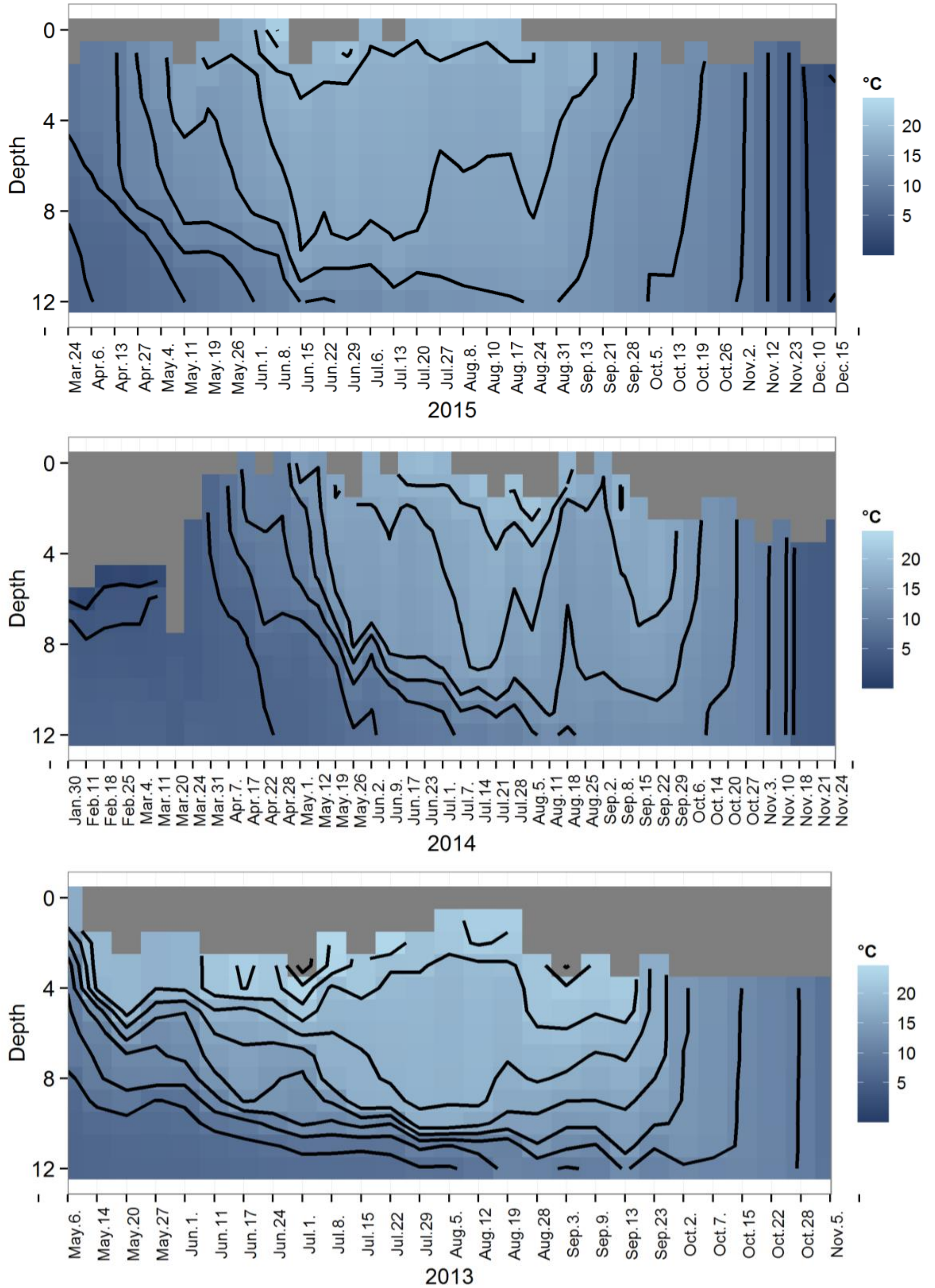

Figure 2.1-2: McKinley Reservoir temperature profiles near intake from 2013-2015

Note: Grey represents atmosphere and its depth is variable due to changing water level in reservoir

Bottom water maintained a low dissolved oxygen of <2.0 mg/L through the summer in every year (Figure 2.1-3). Prior to 2014, the anaerobic zone usually increased to >4 m thick. Anaerobic water remained trapped below the lower intake where it could not be readily removed into the distribution system. The anaerobic siphon/drain was used occasionally from 2010-2013. The combination of aeration and the anaerobic siphon did not disrupt the bottom anaerobic layer in McKinley Reservoir in the years prior to Okanagan Lk inflows.

Throughout 2014 and 2015, anaerobic development was much lower and resulted in a thinner anaerobic layer than in earlier years (Figure 2.1-3). Dissolved oxygen was excellent throughout the water column at both profile sites following ice-off in 2015. The reservoir quickly began to stratify with the surface warming up and the bottom becoming anaerobic. Over summer 2014 and 2015, a very small anaerobic zone formed that was less than 1-2 m thick.

Prior to adding the anaerobic drain in 2004, autumn was usually marked by increased colour, turbidity and a musty/fishy taste and odor in the GEID system caused by the overturn of the water layers in McKinley Reservoir. These problems were improved but not eliminated with wasting and aeration. A maximum of 144,000 gal/day can be released from the siphon to the pipe yard. Drainage problems prevented use of siphon for extended periods in 2012 to 2013, but redevelopment of the drainage on an adjacent property allowed greater use in 2014 and 2015. The anaerobic siphon is an unfortunate loss of water but it is necessary to keep the anaerobic volume small through the summer. Use of Okanagan Lake water has greatly decreased the size of the summer anaerobic zone to only the deepest 2 m of the reservoir where groundwater collects.

There were no major taste and odor complaints in fall 2013 but there was in 2014 during a drawdown that triggered a turbidity event. In 2015 there were no taste and odour problems.

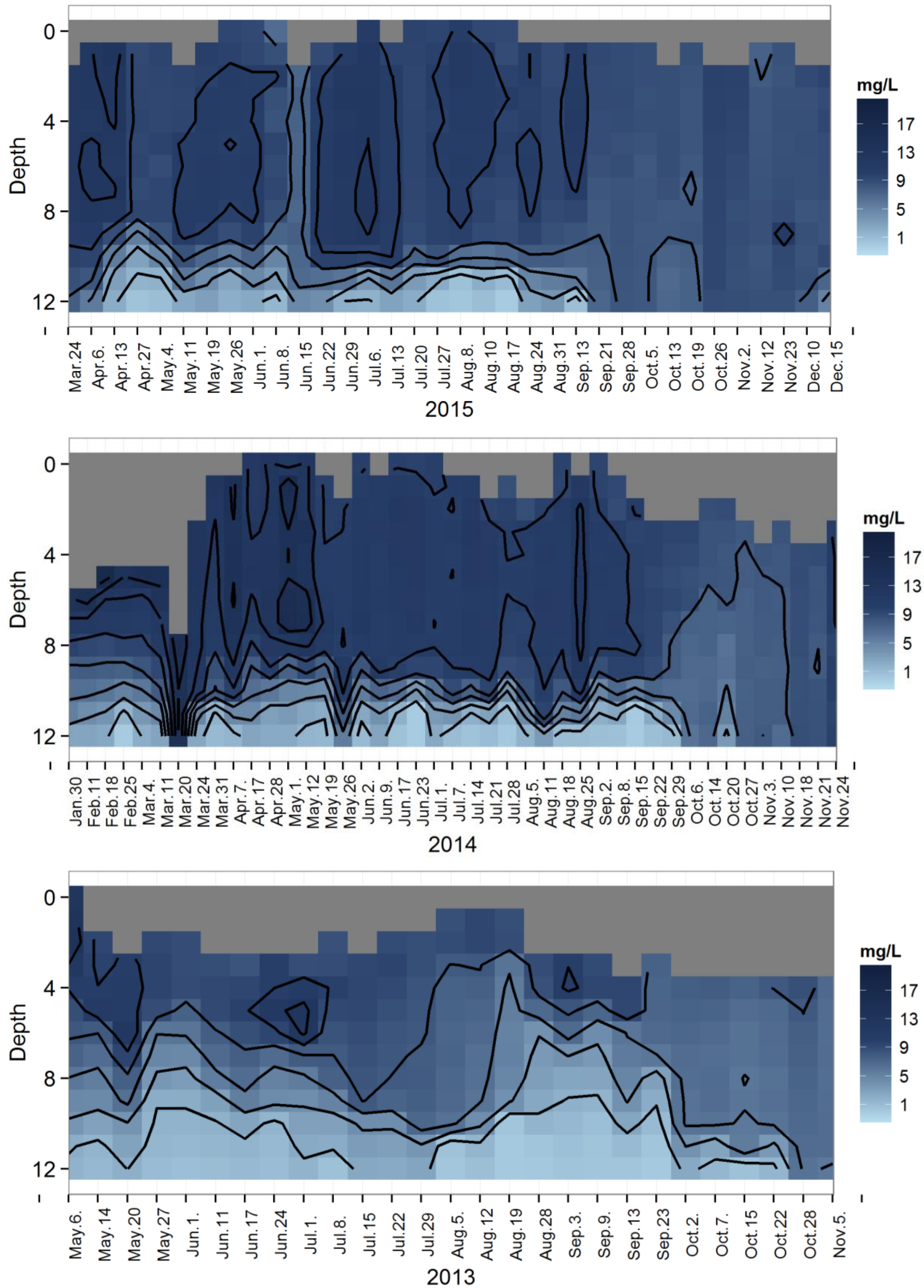

Figure 2.1-3: Dissolved oxygen profiles of McKinley Reservoir at intake, 2013-2015

Note: Grey represents atmosphere and its depth is variable due to changing water level in reservoir

2.1.3 Groundwater Layer

McKinley's deep water is anaerobic every summer. Research since 2012 found that McKinley Reservoir had a stable groundwater layer throughout the summer that contributed to McKinley's anaerobic zone problems (Figure 2.1-4). Salinity, conductivity, and TDS were higher in this bottom layer while temperature and dissolved oxygen were lower. Increasing TDS, salinity, and lower temperature all contribute to higher water density.

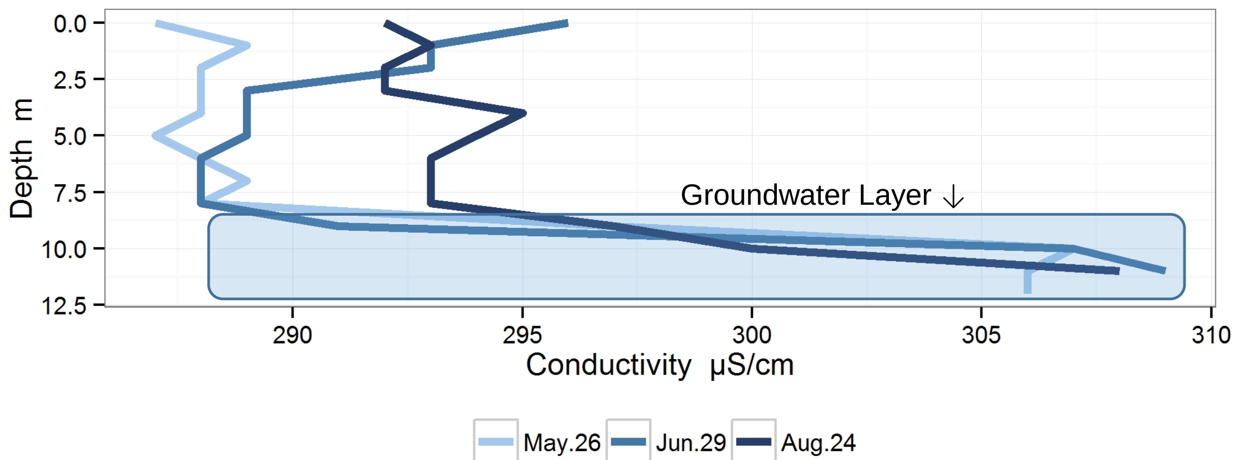

Figure 2.1-4: Conductivity profiles of McKinley Reservoir in 2015 with groundwater layer noted

The bottom of McKinley Reservoir is flat throughout the central area (Figure 1.1-1). The dense groundwater layer was confined to the bottom of this flat 'pan'. On July 27, 2012 vertical profiles were taken at numerous points in two transects across the reservoir to map the extent of the groundwater layer (Figure 2.1-6). The groundwater layer was not obvious in 2014 but returned in 2015, growing to 3 m thick in May 2015 (Figure 2.1-5).

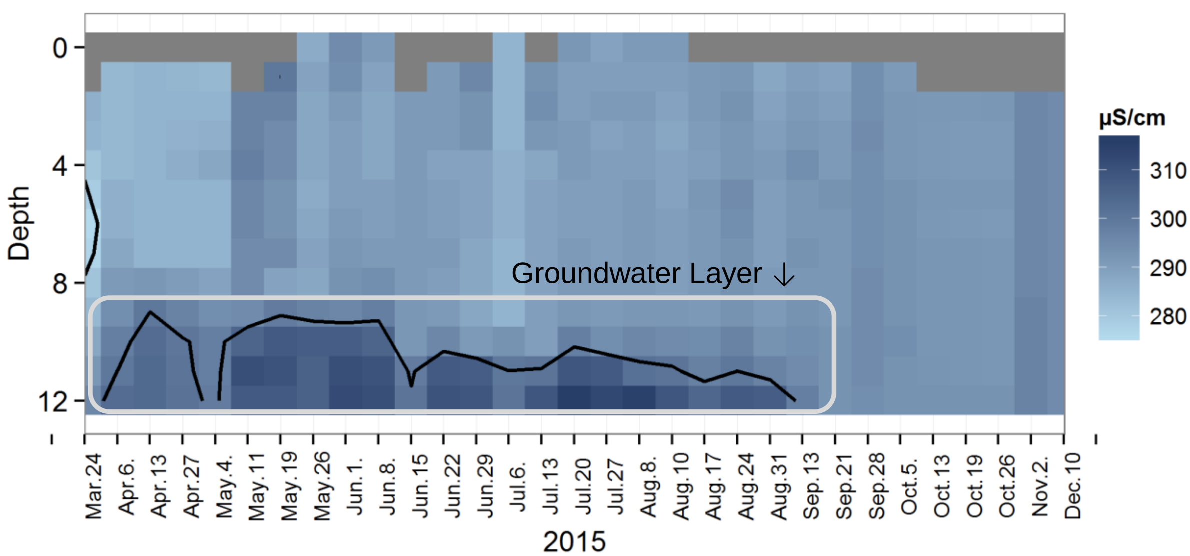

Figure 2.1-5: Conductivity profile for McKinley Reservoir in 2015 with groundwater layer noted

Note: Grey represents atmosphere and its depth is variable due to changing water level in reservoir

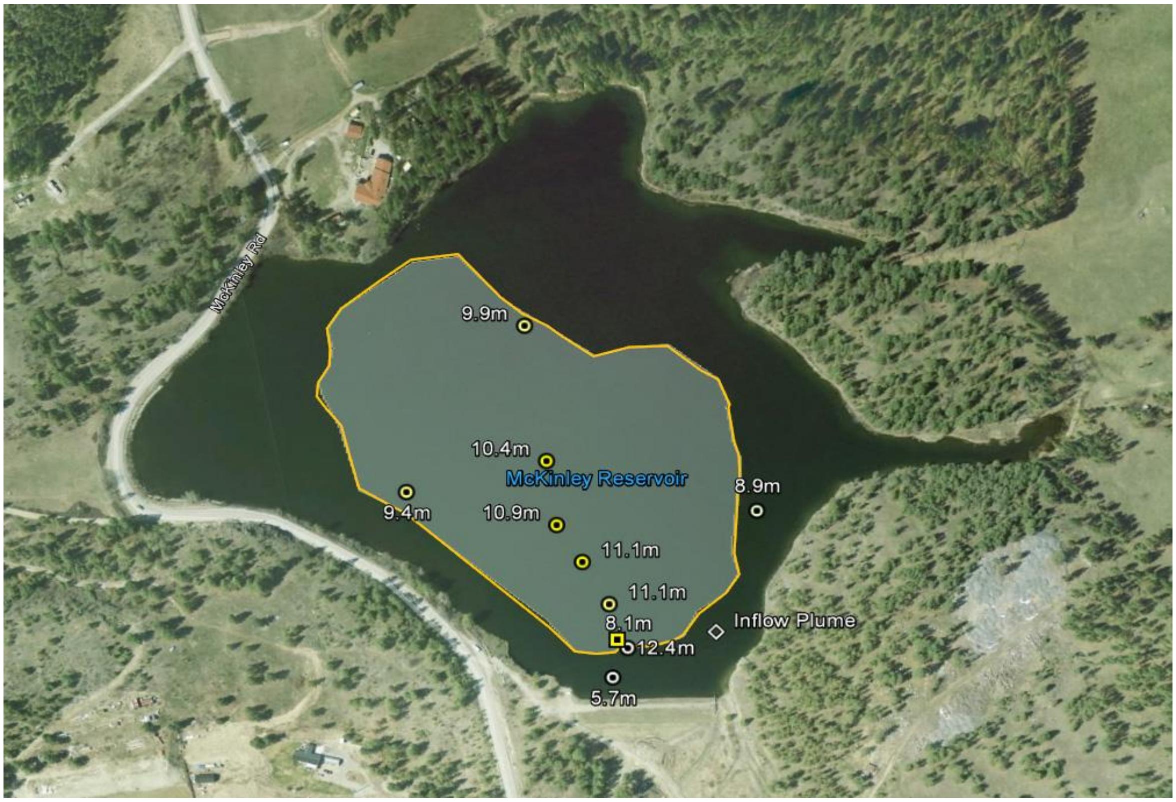

Figure 2.1-6: Extent of groundwater layer in McKinley Reservoir on July 27, 2012 based on bathymetric map with profile sites labelled with circles.

Temperature loggers were placed in McKinley in fall 2014 and have collected hourly temperature readings at various depths since then. The temperature data obtained from these loggers suggest that the groundwater layer mixes fully into the water column each fall but redevelops after ice cover has formed (Figure 2.1-7). Under ice-cover, the deepest 1 m of water warmed by over 2 °C as warmer groundwater pooled at the bottom of the reservoir while the surface remained frozen (Figure 2.1-7).

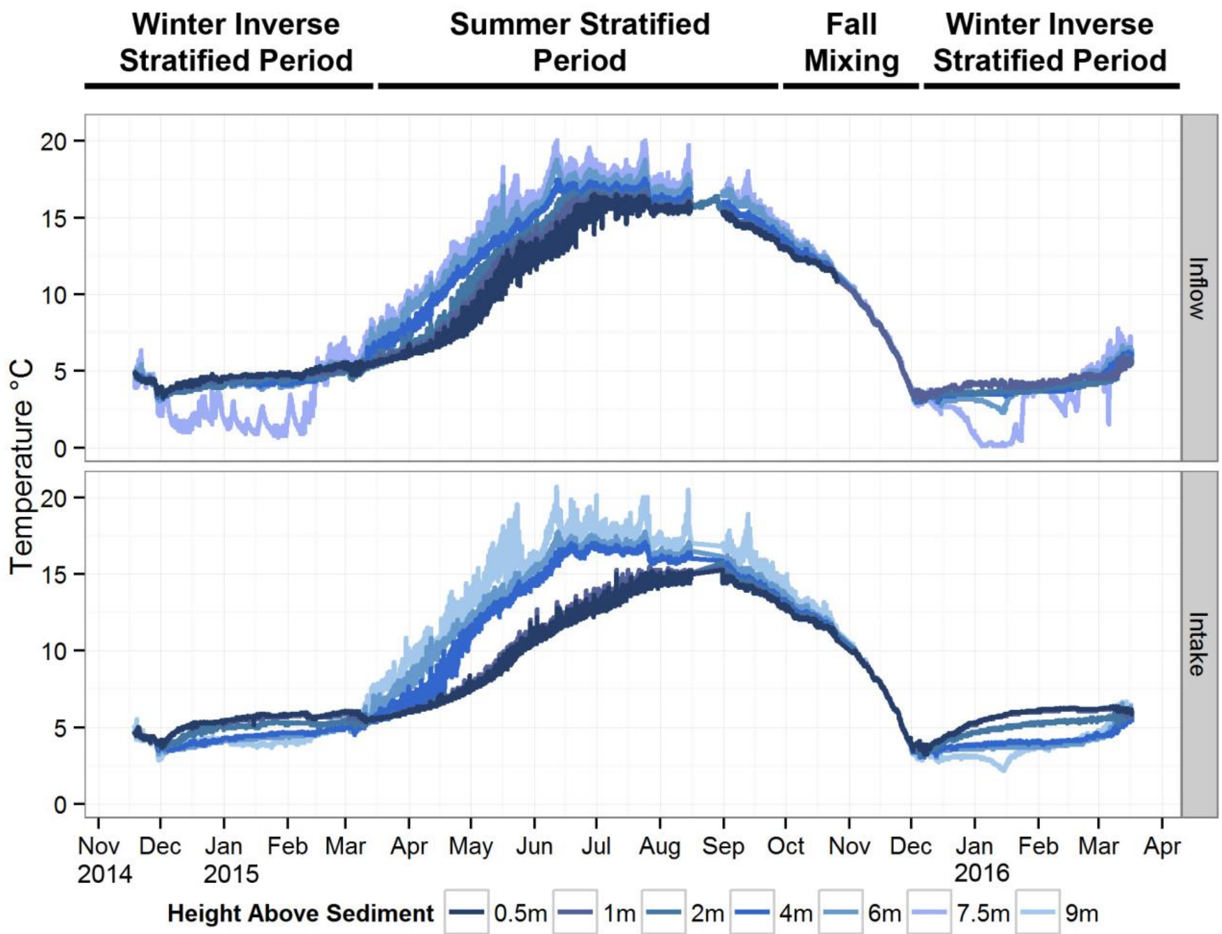

Figure 2.1-7: Temperature logger data from McKinley Reservoir: 2014-2016

We predicted that Okanagan Lake water would have a closer density and this groundwater layer would be less distinct. This proved to be the case and is clearly evident in the conductivity profiles in Figure 2.1-8. The difference in density between the cold, moderate conductivity/TDS of Okanagan Lake inflows and the groundwater layer was much smaller than it had been between the soft, low density creek inflows and the groundwater layer and can be clearly seen in Figure 2.1-8. This means that Okanagan Lake water can mix with the groundwater layer delivering oxygen and reducing the extent and intensity of anaerobic conditions (Figure 2.1-8). This is an important benefit to water quality in McKinley Reservoir.

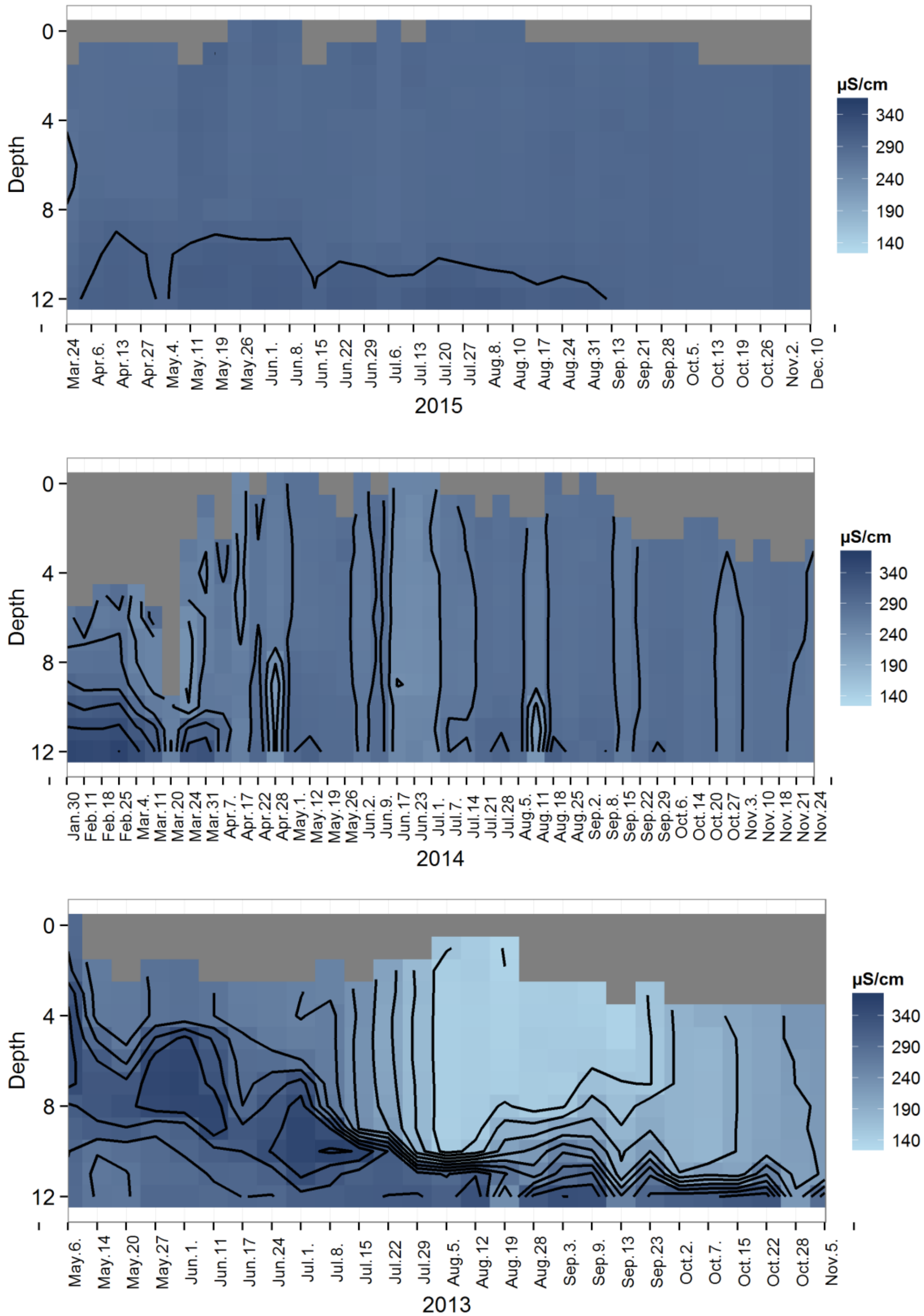

Figure 2.1-8: Conductivity profiles for McKinley Reservoir, 2013-2015

Note: Grey represents atmosphere and its depth is variable due to changing water level in reservoir

2.2 McKinley Reservoir Water Quality

McKinley Reservoir water quality was historically determined by the variable inflow from its groundwater seepage, watershed reservoir lakes and from wells, but beginning in 2014, McKinley was influenced by Okanagan Lake inflows and groundwater seepage from its immediate watershed.

There were four key factors determining water quality in McKinley Reservoir during 2015:
(1) Inflowing water quality always dominates the quality of reservoir water and it was very stable with Okanagan Lake inflows
(2) Reduced thermal stability caused by dense Okanagan Lake inflows
(3) Storage in any reservoir affects water quality and the effects of storage in McKinley Reservoir during 2015 were again negative in its second year of Okanagan Lake inflows
(4) Groundwater inflows/subsurface drainage occur, based on bottom water chemistry
(5) Weather also causes change in the biological regime of McKinley Reservoir, and that has repercussions on chemical processes as well

The key effects are discussed by parameter, below.

2.2.1 pH

(Drinking Water Objective: 6.5-8.5)
pH controls numerous aspects of water chemistry including carbonate buffering and copper precipitation. Historically, creek inflows to McKinley Reservoir had variable, more acidic pH that averaged 7.44 ± 0.24 during summer while well inputs averaged 7.98 ± 0.17. In contrast, Okanagan Lake water pH averaged 7.59 ± 0.23, a value based on GEID sampling 2006 - 2010. The resultant increase in reservoir pH affects numerous processes including algae growth and chlorine residuals. As a result, McKinley water is better buffered and the maximum surface pH dropped from 9.0 in 2013 to 8.7 in 2014 and 8.8 in 2015, while bottom pH raised from >7.1 in 2013 to 7.9 in 2014 and 7.4 in 2015 (field meter readings). The net effect of the Okanagan Lk inflows is higher and more stable pH.

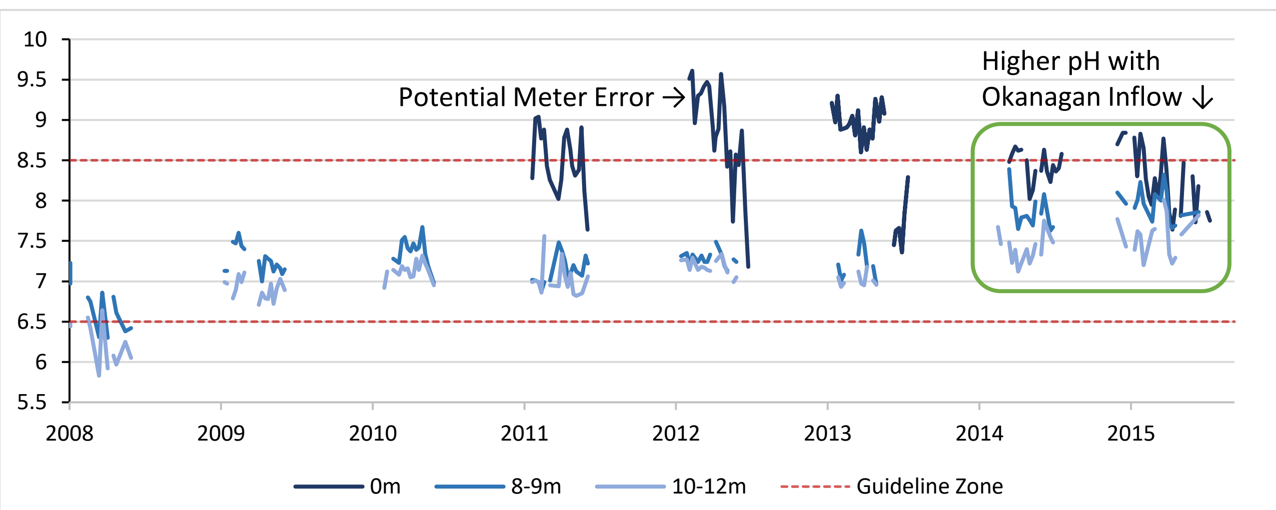

Figure 2.2-1: McKinley Reservoir pH, 2008-2014*
*2014-2015 data based entirely on meter and not lab results

The ratio of low pH bottom water versus high pH surface water that enters the intake will affect chlorination. Three McKinley raw pH samples rushed by GEID staff to Caro on August 21st 2014 gave an average pH of 8.20. It is this high because of the alkaline Okanagan Lake inputs, and apparently limited intake of anaerobic water.

2.2.2 Water Colour and Transparency

(Drinking Water Guideline <15 TCU)
Colour is subdivided into apparent colour that includes tiny suspended particles and true colour that measures only dissolved material. Up to 2013, water colour was a main concern in GEID's system. Since the switch to low-colour Okanagan Lake water, complaints about water colour have subsided.

Figure 2.2-2 compares McKinley turbidity and apparent colour in deep water from 2008-2010 (with aeration), followed by 2011-2013 (without aeration), and 2014 with Okanagan Lake inflows. Anaerobic bottom water wasting occurred in all years but was used only sparingly in 2012 and 2013. This figure demonstrates a dramatic drop in apparent water colour at the two intake depths during 2014. Water colour subsided throughout the reservoir but especially in the deep water over the course of the summer. In 2014, water colour actually met the water colour objective (red line) at the 8-9m upper intake.

Prior to Okanagan Lake inflows, McKinley stratified and the bottom water deteriorated to maximum values of:

- 475 TCU without inflow or wasting
- 210 TCU with wasting only
- 140 TCU with aeration and wasting, but turbidity increased
- 102 TCU after the switch to Okanagan Lk inflows in 2014
- 75 TCU during the fall 2014 drawdown turbidity event
- 36 TCU in 2015 during fall algae bloom

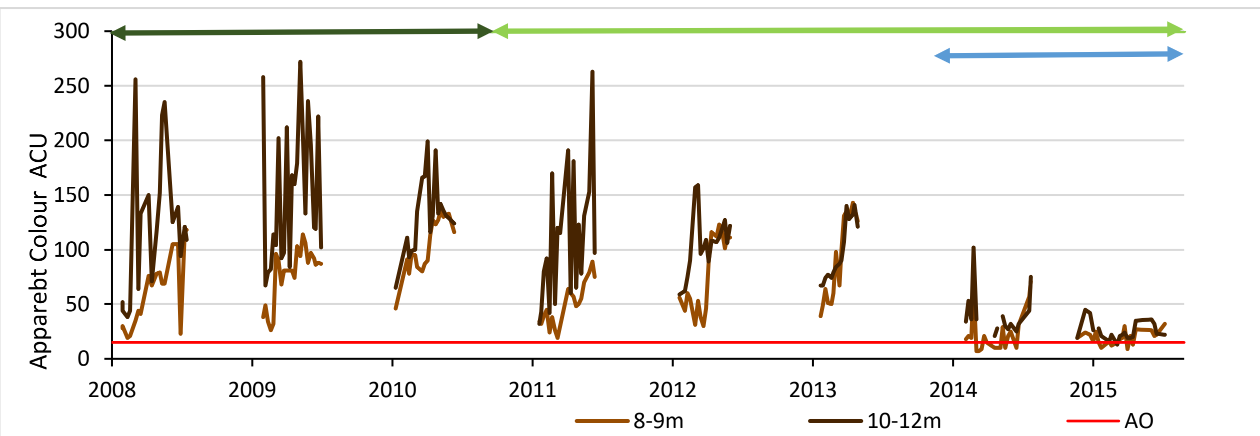

Figure 2.2-2: McKinley Reservoir apparent colour, 2008-2015
Coloured arrows: dark green = aerator on, light green = aerator off, blue = Okanagan inputs

A comparison of water colour and turbidity of the intake water going into the GEID system is provided in Table 2.2-1. This table clearly demonstrates the chlorine-induced conversion of water color to precipitated particulates that increased turbidity.

Table 2.2-1: Annual average apparent colour and turbidity in GEID intake water 2007 - 2015

GEID raw and (chlorinated) water quality	Average colour (PtCo)	Average turbidity (NTU)
2007 wasting	80 (51)	1.33 (1.43)
2008 wasting and aeration	58 (35)	1.70 (1.79)
2009 aeration and wasting	55 (36)	1.29
2010 aeration and wasting	82 (59)	1.33 (1.63)
2011 aeration and wasting	54 (37)	1.20 (1.42)
2012 wasting w brief aeration	66 (48)	1.79 (2.34)
2013 minor wasting	76 (63)	1.62 (2.51)
2014 wasting	31 (26)	1.26 (1.66)
2015 wasting	23 (17)	1.06 (1.40)

Wasting deep anaerobic water is more important when the 8-9 m intake is in use since its use allows the bottom water to stagnate more than when the deeper intake is in use. A blend of both intakes is common. This intake was used more than the old deeper one during 2014 and 2015. Over the summer, the best water quality was found at 8 m, but in July and August, the 9/10 m depth was also clean. Water colour in McKinley Reservoir still increased with depth during 2014 and 2015 (Table 2.2-2).

Table 2.2-2: Average depth profile samples for 2015

Depth	Turbidity NTU	App. Colour PtCo
0 m	1.24	21
4 m	1.12	20
6 m	1.27	21
8 m	1.28	20
9 m	1.20	22
10 m	1.33	25
11/12 m	1.83	30
Siphon	2.15	45

(Turb/colour Courtesy of A. Cammell; ToC from Caro)

Historically, fall overturn in McKinley Reservoir was often marked by a turbidity spike to >2-4 NTU and an algae bloom usually developed as nutrients circulated to the surface water. With water wasting through the anaerobic drain conditions improved, and with the switch to Okanagan Lake as source water, the bloom and turbidity that followed overturn 2014 was comparatively mild, however, it intensified during the fall draw-down in October and November. During 2015 turbidity was moderate during the freely mixing periods (Mar-Apr and Oct-Nov) but quite low during the stratified period (May-Sept).

Aeration was not attempted in 2014 or 2015 because so many changes were happening in McKinley concurrently, and it would be difficult to determine the outcome of aeration. Aeration will likely be attractive if McKinley Reservoir is bypassed for much of the growing season.

Secchi depth and water transparency were much better in 2014-2015 than in previous years and stabilized between 5 – 6 m in mid-summer before declining in September as the reservoir mixed. The 2014 turbidity event caused a dramatic decrease in water clarity that was not repeated in 2015. Secchi depth appears to be stable at around 3 m during the freely mixing periods of spring and fall in McKinley (Figure 2.2-3).

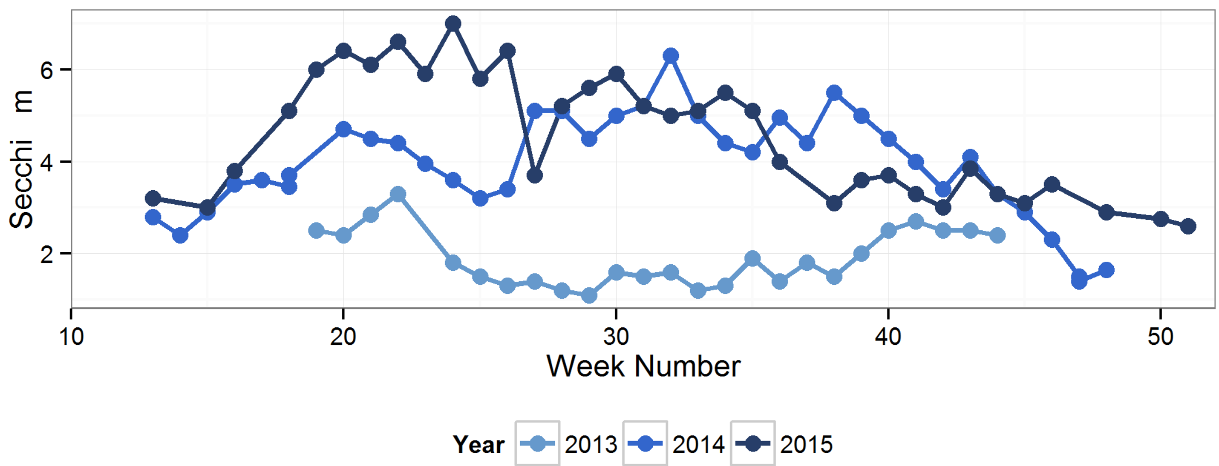

Figure 2.2-3: Secchi depth at McKinley intake area sample location during 2013-2015

The correlations between secchi depth, water colour and turbidity in 2015 are as follows:
Secchi : Colour R= -0.57 (-0.61 in 2014)
Secchi : Turbidity R= -0.56 (-0.65 in 2014)
Colour : Turbidty R=0.53 (0.77 in 2014)
Colour and turbidity are correlated and they decrease secchi depth, producing the negative correlations.

2.2.3 Turbidity

(IHA Drinking Water Objective <1 NTU)
In the past with upland storage inflows and algae blooms, turbidity ranged from >1–2 NTU during April and May, climbed to 2-4 NTU in June, and remained in the 2-3 NTU range in July to September. Fall overturn was often marked with turbidity spike to 3-4 NTU. Turbidity occasionally increased in late winter under ice cover from 1-2 NTU when an anaerobic zone developed, and consequently, ice-off was frequently marked with a turbidity event as the rate of water column circulation increases dramatically and an ice-off algae bloom developed.

With the Okanagan Lk inflows, turbidity was much lower in 2014 and in 2015. In both years, elevated turbidity and algae growth occurred during the non-stratified period when the entire water column was circulating. This period spans ice-off through xxx and late August through to ice-on. Turbidity declined gradually to all-time lows during the summer stratified periods of both years (Figure 2.2-4).
The main cause of the turbidity incident that occurred in McKinley Reservoir during fall 2014 was re-suspended detritus and fines from the NW infill finger area and adjacent bay that had shallow water cover due to a draw-down below el 22'8". Additional contributions to the turbidity event included mild algae blooms and reservoir overturn. GEID staff made the decision to not draw the reservoir below 27'6" for the foreseeable future during the ice-free period. This elevation provides enough volume over the finger fill excavation area to avoid sediment disturbance. For more information, please refer to; McKinley Reservoir October/November 2014 Turbidity Incident Report (LAC, 2014). The need to maintain this water cover may decline over the next decade as the infill material re-sorts.

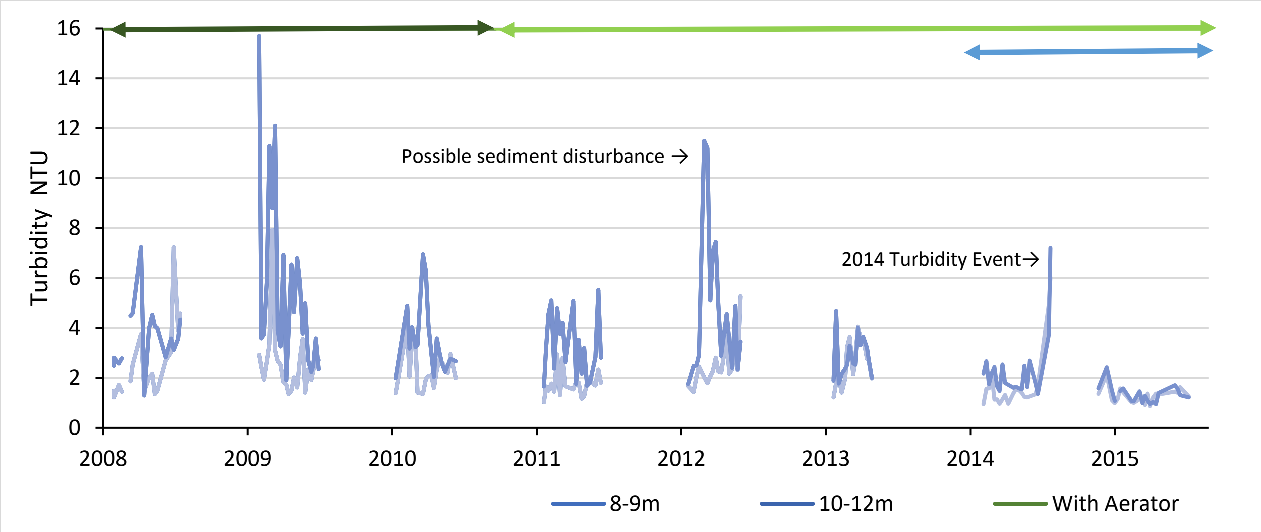

Figure 2.2-4: McKinley Reservoir summer turbidity, 2008 - 2015
Coloured arrows: dark green = aerator on, light green = aerator off, blue = Okanagan inputs

There was a major turbidity event in the fall of 2014 caused by sediment resuspension during the fall draw-down. Fall draw-downs have been routine at McKinley Reservoir and did not cause unacceptable increases in turbidity prior to 2014. Since the increasing turbidity problem in fall 2014 coincided with the drawdown and reservoir overturn, the decision was made to raise the reservoir level to see if the very high turbidity (>5 NTU) subsided, and it did.

In most places, McKinley Reservoir sediments are flocculent and easily re-suspended. An organic surface sediment layer has accumulated to a depth of 5 mm near shore and up to 8 cm in deeper water and finally a maximum of 20 cm of black silty mud in the deep pocket near the dam (see Figure 1.1-1). The later area may have been a saline wetland prior to damming McKinley Reservoir (similar to Wilden ponds). Nutrients, colour and dissolved iron recycle from McKinley sediment to the water column (ref 4).

Time to lower turbidity All materials found in the McKinley Reservoir samples (highlighted in brown) will settle out over time. The current conditions with cooler water near 4 °C will slow settling down from the values shown in Table 2.9-3. We would expect silt to drop out of suspension rapidly, but the organic detritus will take longer than 20 days to settle out.

Table 2.9-3: Size and settling velocity estimates in water at 10-20ºC

Material	Size	Fall velocity
Inorganic		
Sand	>63 – 100 microns	> 100 m/day
Silt	4 – 63 microns	21 m/day
Clay	0.1 – 4 microns	1 m/day
Marl	<1.5 microns	0.6 m/day
Biological		
Organic clumps	> 100 microns	<10 m/day
Organic clumps (detritus)	< 100 microns	0.35 m/day
Large algae and diatoms	22 – 70 microns	< 50 -1 m/day
Small algae	6 – 14 microns	<1 – 0.14 m/day
Lrg filament cyanobacteria	5w x 200l microns	0.1 m/day
Sm filament cyanobacteria	1w x 100l microns	>0.007 m/day
Giardia / crypto cysts	4 – 8 microns	0.02 - 0.1 m/day
Bacteria – *E. coli*	0.7 – 10 microns	>0.0035 m/day

(Dia and Boll, 2006; USGS 2003; USGS 2007; Hayco, 2009; Larratt 2010)

Future Drawdowns and Turbidity Reservoir drawdowns can be required for reservoir maintenance and/or for construction of works. Until the new shoreline areas along McKinley Reservoir stabilize, draw-downs below 27'6" are not recommended during the ice-free period of the next 3-5 years unless the bypass is in exclusive use. Similarly, rapid drops in water level should be avoided during ice cover for safety reasons, but drawdowns with ice cover are better from a turbidity perspective. Although the reservoir sediments under the ice will not freeze, no wind energy can reach them to re-suspend fines. As reservoir levels drop, the ice will sag along the shore, providing protection and little turbidity should result. During re-filling, the ice can lift sedimented material as it rises but increased turbidity should be minor. Re-filling following ice-off should be avoided, particularly from levels near or below 27'6", at least for the next few years until the fines deposited from the 2014 turbidity incident can re-sort deeper into the reservoir in a process known as sediment focussing.

2.2.4 Iron and Manganese

(Drinking water guidelines: total iron <0.3 mg/L; total Mn <0.05 mg/L)
Historically, large iron and manganese concentrations contributed to the water colour problems experienced by GEID. Within McKinley Reservoir, oxygenating anaerobic water rich in Fe^{2+} caused precipitation of iron hydroxides. Bacteria then chelated the iron hydroxide, producing a characteristic rust-brown slime. However, iron concentrations in Okanagan Lake water are approximately 5 to10 times lower than the low iron wells at 0.02 ± 0.02 mg/L (MoE, 2013).

Prior to any form of reservoir treatment, anaerobic conditions in the deep pocket of McKinley Reservoir allowed dissolved iron concentrations to reach a recorded maximum of 22 mg/L T-Fe, more than 70 times the guideline, and 1.23 mg/L T-Mn, 25 times the guideline. T-Fe averaged 0.93 ± 0.96 mg/L at 10-12m in McKinley from 2010-2013. Mn sampling in McKinley was discontinued in 2010. With the anaerobic drain operating in 2010-2013, T-Fe peaked at 3.30 mg/L. Since the switch in source water, iron concentrations measured in the raw outflow averaged 0.08±0.18 mg/L in 2014 and xxxx in 2015. As predicted by bench experiments performed by LAC for GEID, Okanagan Lake inflows delivered oxygen to the bottom water and prevented the wide-scale release of iron from the sediments to the water column. Reduced iron concentrations are critically important to GEID because lower Fe means lower water colour and less iron-related bacteria biofilm development in the distribution system.

In the years when upland storage filled McKinley Reservoir, iron biofilm developed in the distribution system are required regular line flushing. With the new water supply, line flushing was required still required in 2014 and took roughly the same amount of time as previous years to get turbidity down to source levels, however, colour cleared up quickly. Some of this turbidity may be from the turbidity event or from sloughing of biofilm from the distribution pipeline. The amount of line flushing required in the GEID system was lower in 2015.

2.2.5 Nutrients

Historic nutrient data showed significant variations in response to the constantly changing blend up upland storage and well water. This data indicated that McKinley Reservoir was mesotrophic, meaning it contained moderate concentrations of nutrients. The readily bio-available forms of nitrogen (DIN) and phosphorus (DOP) are nitrate+ammonia and ortho-phosphorus, respectively. and were primarily dependent on inflowing nutrient concentrations. In McKinley, increased contributions of either nutrient led to greater algae growth.

Prior to Okanagan Lk inflows, research had determined that use of high nitrate wells during periods of high algae growth should be minimized or avoided completely. In January 2014, GEID installed a valve on the old syphon line at the East side of the reservoir. This valve remains closed under Board directive to ensure no water from Kelowna Creek or from wells enters the McKinley Reservoir. Neither the Lochrem Rd well or the Airport well #2 were used at all in 2014 or 2015 (M. Rojem, pers.comm.).

Like all reservoirs, McKinley retains nutrients. Some of the inflowing nutrients are consumed by algae growth and delivered to the bottom when the algae die. A portion of these nutrients become permanently locked away in the organic material accumulating on the sediment surface and a portion is recycled back to the water under anaerobic conditions. The anaerobic drain likely draws off a large load of these nutrients including ammonia, organic nitrogen and phosphate, as well as metals, colour and organic material. Colour and turbidity are indicative of the effectiveness of the anaerobic drain (Figure 2.2-5). Water withdrawn into the GEID system also removes a significant amount of nutrient from McKinley Reservoir. The ranking of all these nutrient sources and sinks are as of 2014 are presented in Table 2.2-3.

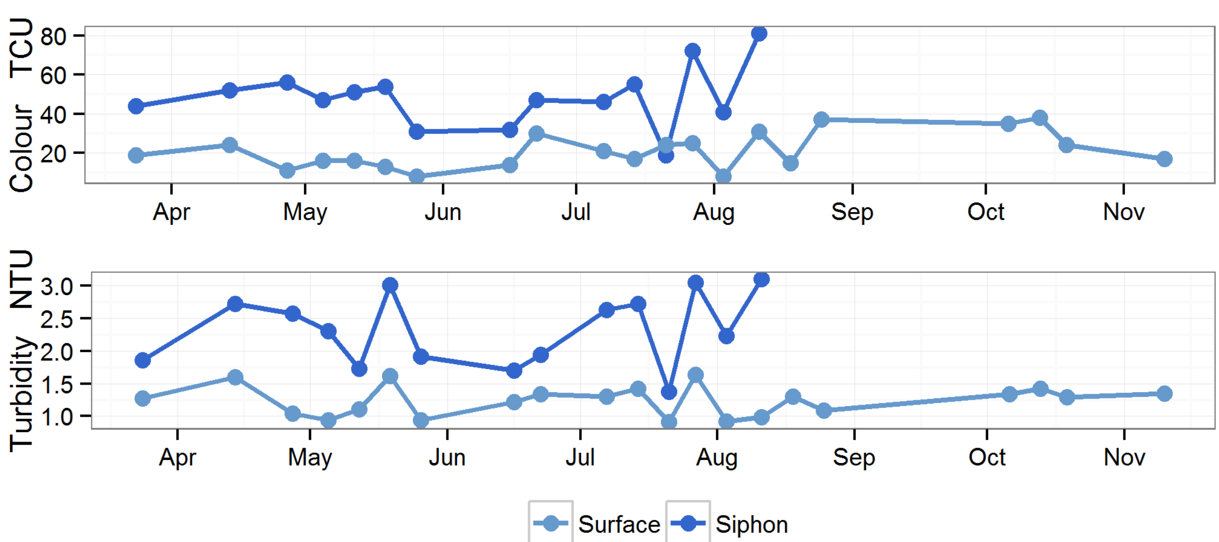

Figure 2.2-5: Colour and Turbidity in McKinley Reservoir anaerobic drain water, 2015

Table 2.2-3: Summary of nutrient sources to McKinley Reservoir in 2014 and 2015

Parameter	primary source	secondary source	tertiary source
colour	release from sediments	algae in summer	none
organic nitrogen	algae in summer	release from sediments	Ok Lk inflows
inorganic nitrogen	release from sediment	algae	
inorganic phosphorus	release from sediment	minor inputs from Ok Lk	none

2.3 Algae Control

Many low elevation reservoirs in have prolific summer algae communities that impair water quality and encourage anaerobic water, just as McKinley Reservoir did prior to 2014. The amount and types of algae present changed when it was converted to Okanagan Lake water (Figure 2.3-1). For most of summer 2014, algae production was much lower than the historic norms. Improved water column mixing and smaller anaerobic build-up in deep water restricts nutrient and iron release from the sediments. In 2015, algae production was again lower than the historic norms and similar to 2014. There was a large bloom of *Dinobryon* in McKinley in mid-September. This bloom was triggered by a partial mixing event in early September and reduced the secchi depth by 2 m (Figure 2.2.3). There was also a moderate cyanobacteria bloom during November and December in 2015.

ALGAE GROUPS Up to 2013, McKinley Reservoir had a variable and unusual algae production. It rarely produced potentially toxic blue-green algae (cyanobacteria) blooms and instead it produced a variety of blooms, particularly in the surface water (Figure 2.3-1). One of the unusual features was the flagellate and dinoflagellate blooms that caused a fishy taste and odor. These fishy-smelling algae prefer water rich in organic matter and they reproduce in shallow water among filamentous algae and other vegetation. Milfoil also plays host to filamentous green algae, producing an unsightly mass along the shoreline in most summers.

A dramatic change in the algae communities in McKinley Reservoir was expected with the change of water source. The overall effect of Okanagan Lake inflows was a decline in dissolved phosphorus and that curtails algae production. Additionally, Okanagan Lake inflows carried diatoms in the spring and only carried a small amount of diatoms and cyanobacteria during summer 2014 and 2015. Figure 2.3-1 illustrates the large differences in the distribution of algae groups between 2013 and 2014-2015. The same peak production seasons occurred and they related to the spring and fall overturns when nutrients from the deep water are circulated through the reservoir. However, the algae types that responded to these nutrients were very different. For example, the sustained green/cyanobacteria blooms in early summer 2013 were replaced in 2014 by a brief *Dinobryon*/cyanobacteria bloom with a small diatom components donated by Okanagan Lake inflows. The fall bloom of dinoflagellates in 2013 was replaced in 2014 and 2015 by flagellates /cyanobacteria during fall overturn and draw-down. Flagellate numbers increased with turbidity in mid-September and were a first sign of trouble for turbidity.

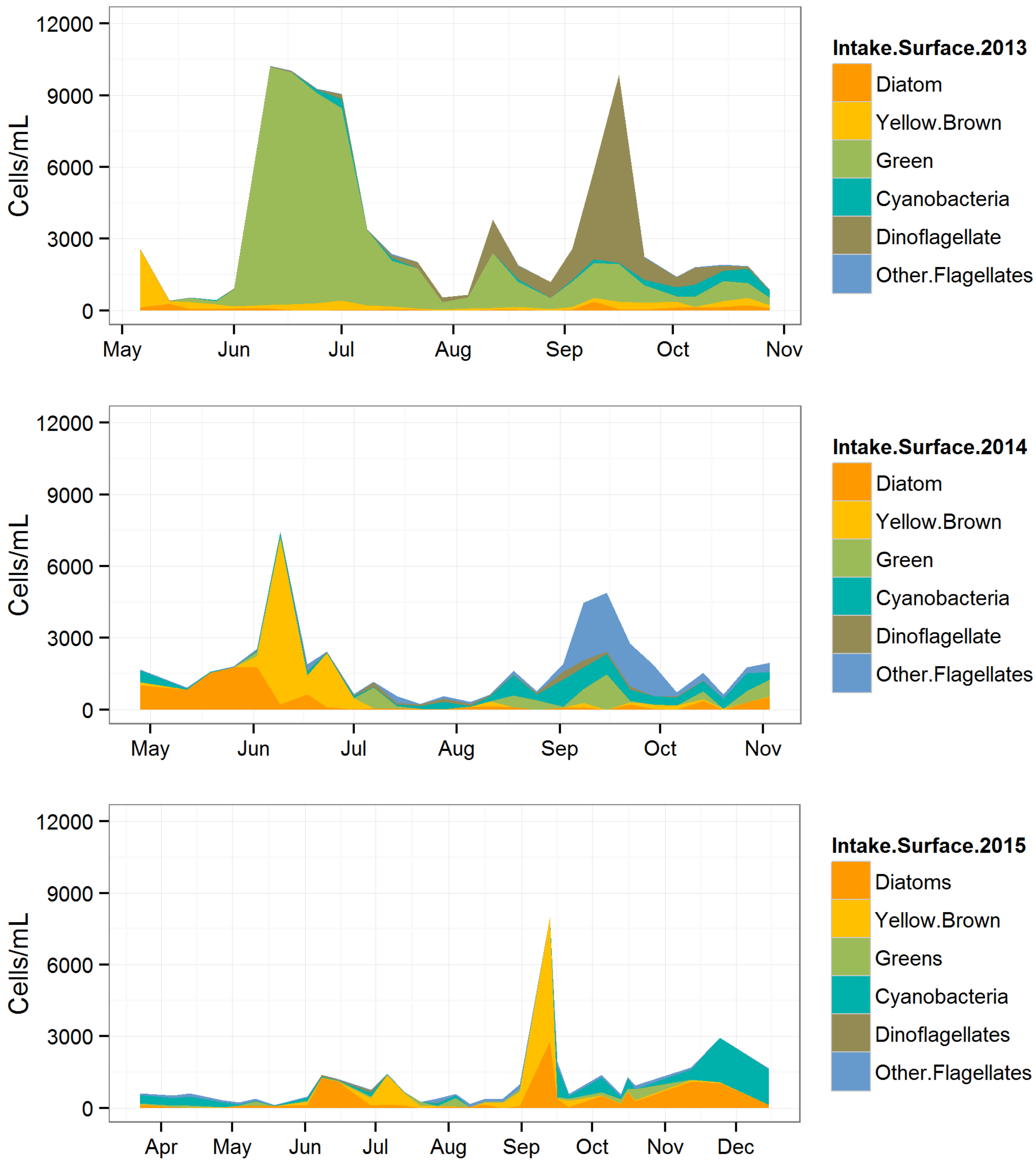

Figure 2.3-1: Algae composition of McKinley surface samples showing variety of algae types present, 2013, 2014 and 2015 comparison

The distribution of algae groups by sample location during 2015 is provided in Figure 2.3-2, below. Some groups were prevalent in the surface water, while others dominated in deep water.

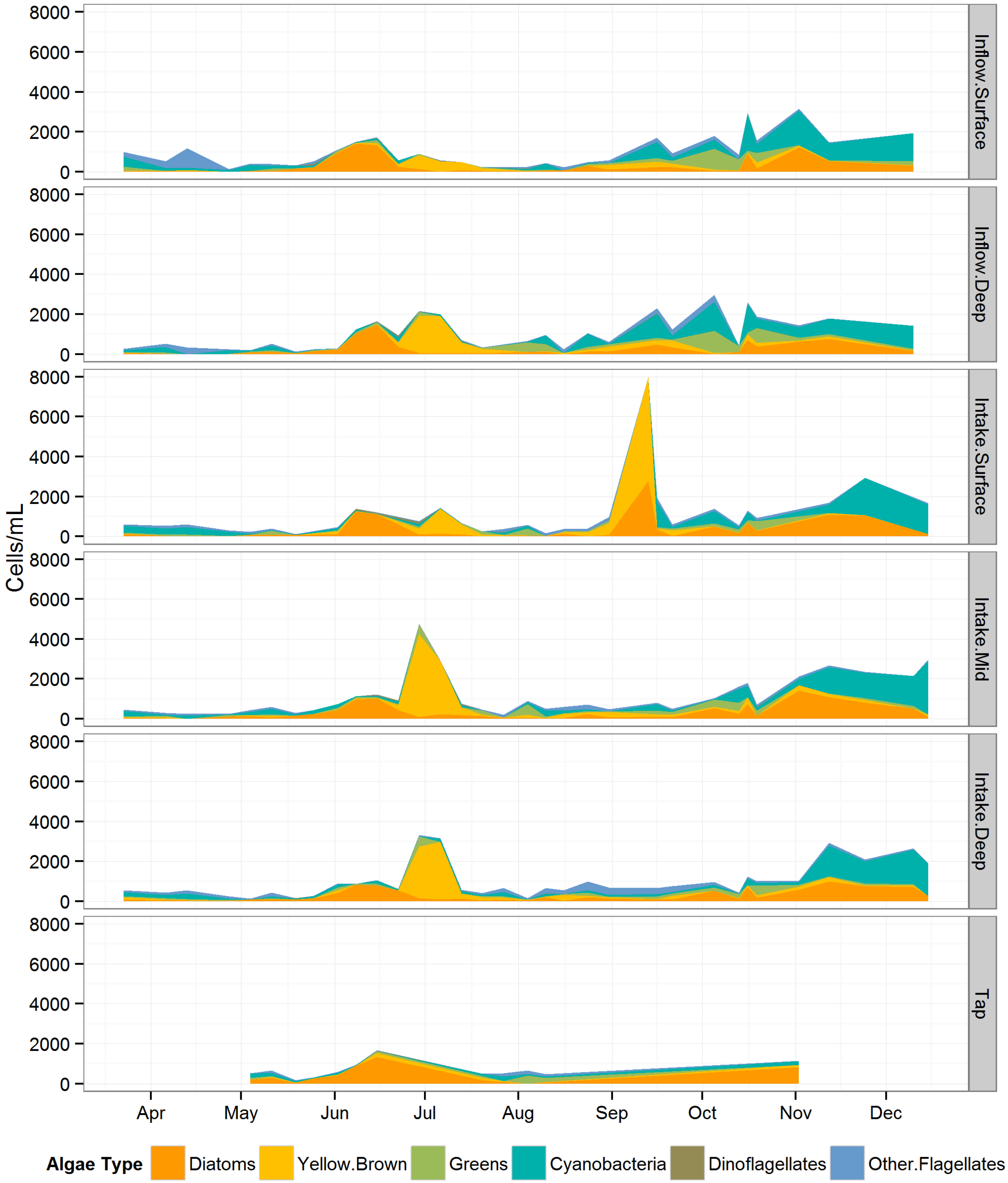

Figure 2.3-2: Algae composition of McKinley samples showing variety of algae types present, 2015

ALGAE SPECIES Within the algae community composition, some algae species are particularly important and are treated separately in this section. In McKinley up to 2013, algae species will bloom one year and not show up in another (Table 2.3-1).

Table 2.3-1: Summary of summer algae bloom species 2002 – 2014 in McKinley Reservoir

Algae blooms 2002	Algae Blooms 2012
June 18 flagellates + *Chroococcus*	May 7 Dinobryon
Aug 8 *Peridinium*) **Treated**	May 28 – June 25 Volvox, Sphaerocystis, Chlorella
Sept 7 *Peridinium*) **Treated**	July 15 – Aug 12 Pandorina, Anabaena **Treated**
Algae Blooms 2003	Sept 4 – Sept 10 Fragilaria, Pandorina
July 24 *Anabaena* (last bloomed in 1989) **Treated**	Sept 17 – Oct 1 Peridinium
Aug 18 Green flagellate *Chlamydomonas* **Treated**	Algae Blooms 2013
Sept 8 Green *Pandorina*	May 6 Cryptomonas
Sept 22 Peridinium, Chroococcus, Chlamydomonas **Treated**	June 11 – July 22 Gleocystis, Chlorella
Algae Blooms 2004	Aug 12- Sept 16 Scenedesmus, Peridinium
May13-June 1 Uroglenopsis + Dinobryon **Treated**	Algae blooms 2014
June 28 Chroococcus **treated**	June 9 Dinobryon bloom at the surface
July 28 Chroococcus **treated**	Aug 25-Sept 22 Lyngbya bloom
Sept 15 Peridinium + Chlorella	Sept 8-29 Trachelomonas surface bloom near dam
Algae Blooms 2005	Algae blooms 2015
June 20 – 27 Dinobryon **Treated**	June 15 Spring diatom bloom at all depths
July 12 Anabaena planktonica/Anabaena circinalis **Treated**	June 29 Dinobryon bloom at the depth **Treated**
Oct 15-20 Anabaena planktonica/Anabaena circinalis **Treated**	Sept 13 Dinobryon bloom at surface **Treated 2x**
Algae Blooms 2006	Nov-Dec Cyanobacteria bloom at depth **Treated 2x**
April 26- May 5 Dinobryon + Asterionella **Treated**	
May 12 – June 8 Lyngbya **Treated**	
June 28 – 21 Pandorina morum **Treated**	
October 5 Pandorina morum **Treated**	
Algae Blooms 2007	
Jun 12 Dinobryon	
July 19-Aug 11 Eudorina/ Synura/Aphanocapsa/ Lyngbya **Treated**	
Sept 14 – Sept 28 Peridinium **Treated**	
Oct 18 Pandorina morum **Treated**	
Algae Blooms 2008	
Jun 12 Dinobryon / Eudorina	
Jun 30 Peridinium	
Aug 11 Peridinium **Treated**	
Sept 8 – Oct 14 Scenedesmus / Peridinium **Treated**	
Algae Blooms 2009	
May 5 Dinobryon	
June 9-29 Fragilaria Asterionella Dinobryon	
July 20-29 Mougeotia Peridinium **Treated**	
August 18-27 Mougeotia Peridinium **Treated**	
September 10-21 Mougeotia Scenedesmus **Treated**	
Algae Blooms 2010	
May 6 Cryptomonas	
June24-Jul 6 Asterionella, Cyclotella, Fragilaria, Dinobryon **Treated**	
July 19-Aug 30 Scenedesmus, Chlorella, Peridinium **Treated 3x**	
Algae Blooms 2011	
May 9-16 Dinobryon	
July 4 Dinobryon	
July 25 – Sept 5 Cyclotella, Volvox	

PERIDINIUM With upland inflows, a fishy odor episode in fall caused by *Peridinium* was an annual occurrence. This dinoflagellate is not susceptible to copper sulphate at the dose employed by GEID. Interestingly, *Peridinium* was more abundant in previous summers when the aerator was in use (ANOVA, $P<0.001$), perhaps this animal-like algae benefited from the aerator lifting ultra-fine organics. *Peridinium* counts showed the same general pattern in 2014 as in previous years, but at far lower counts (Figure 2.3-3). It was not present in the inflows from Okanagan Lake. We anticipated a gradual decline in their populations and this was the case in 2015. The possibility of a fall *Peridinium* bloom has become unlikely with the switch to Okanagan Lake source water.

DINOBRYON A brief *Dinobryon* bloom occurred in early summer 2014 and 2015, a small multi-species resurgence marked the fall overturn in early September and a mild bloom occurred in October that included *Dinobryon*. It may have out-competed the more troublesome *Peridinium* seen in previous years.

MOUGEOTIA Increased light penetration into the water column in 2014 allowed more milfoil growth deeper in the reservoir and their stems hosted *Mougeotia*, an unbranched filamentous green algae in mid-September. It subsided on its own and did not require treatment. By the end of October, an abrupt bloom of a slender *Mougeotia* species occurred through the water column. In 2015, Mougeotia was not a problem. Monitoring in future years will determine if this is a one-time occurrence, or if this will be recurrent

FILAMENTOUS CYANOBACTERIA McKinley Reservoir rarely experienced the same cyanobacteria (blue-green algae) blooms that plague other low elevation Okanagan reservoirs in the summer and early fall. They can generate cyanotoxins which can be dangerous, so their absence is important to GEID. However, small cyanobacteria blooms have been treated previously (Table 2.3-1). Harmful cyanobacteria counts in 2014 were very low and were dominated by deep-dwelling types coming in from Okanagan Lake. As a result, filamentous cyanobacteria were usually more numerous in deep water. During 2015 a fall bloom of various cyanobacteria occurred and was treated twice. Of the two common species, *Lyngbya limnetica* and *Planktothrix agardii*, *Lyngbya* is very common and was present in McKinley prior to Okanagan Lake inflows, while *Planktothrix* was only detected in McKinley following Okanagan Lake inflows (Figure 2.3-3). *Planktothrix* typically dwells in deep Okanagan Lake water with low light, and moderate to low nutrient concentrations. There was concern that its numbers would increase within McKinley, but based on 2014 and 2015 results, its filaments remain suspended and viable, but do not proliferate within the reservoir (Figures 2.3-3, 2.3-4).

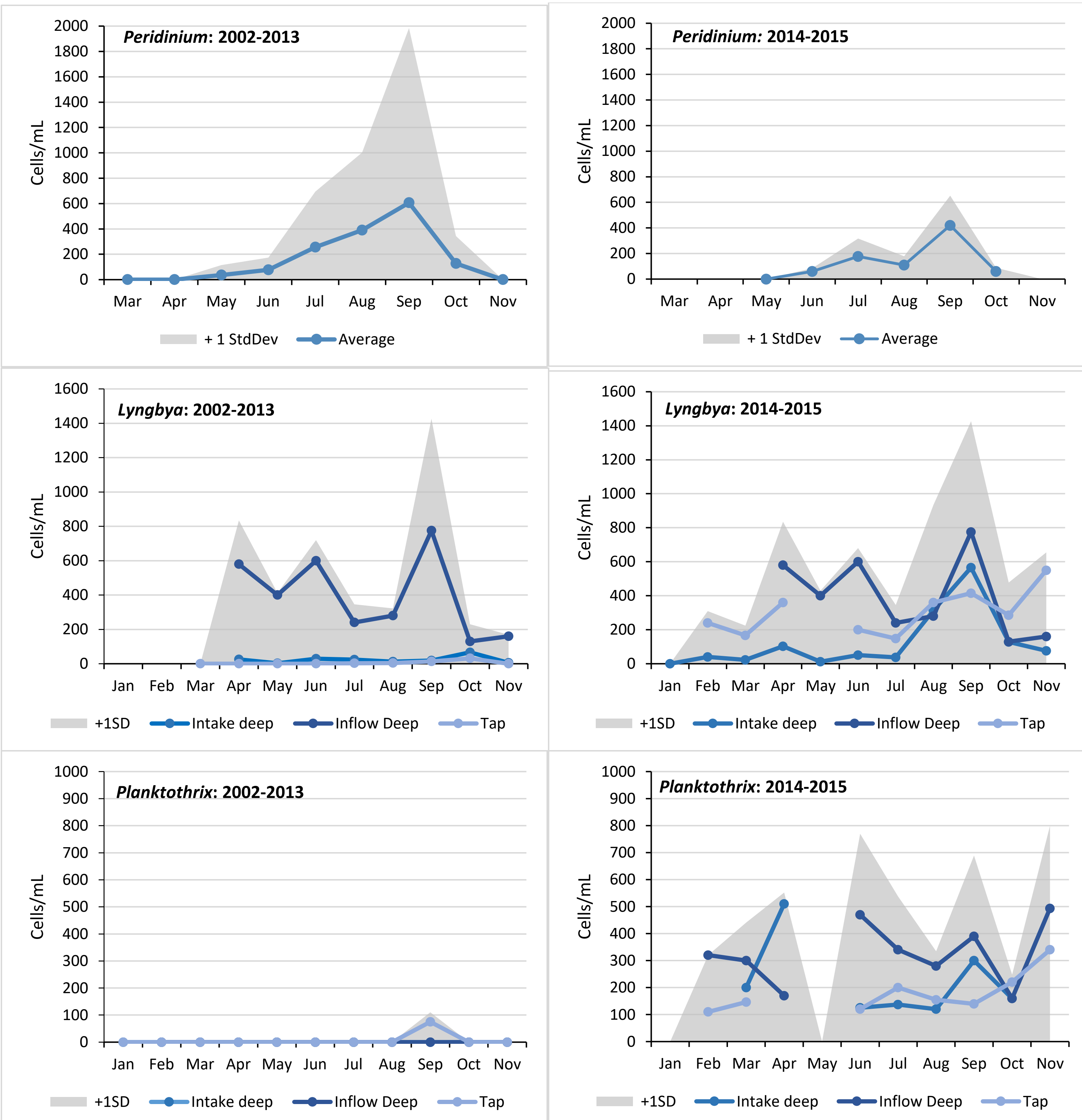

Figure 2.3-3: Average *Peridinium, Lyngbya,* and *Planktothrix* counts by month with standard deviation of data, comparing Upland source 2002-2013 (left), compared to Okanagan Lake source 2014 (right).

Unfortunately, the turbidity event triggered a heterocystous cyanobacteria bloom of *Anabaena*/Lyngbya throughout the water column during the turbidity event in November 2014, and a light copper sulphate treatment was applied. Treatment of the fall 2015 algae bloom occurred twice in November 2015. They did not come in with inflows and are likely resident in the reservoir at very low concentrations throughout the year.

After feed-grade copper sulphate ($CuSO_4$) applications on McKinley Reservoir, residual copper remains in the water column for 3 - 5 days. The amount of copper sulphate allowed by Agriculture Canada is much larger than the dose used on McKinley Reservoir. Copper sulphate is removed from the water column by;

- precipitation with calcium carbonate
- complexing with algae material
- adsorption onto ferric hydroxide precipitate

The ideal copper sulphate dose is calculated using a number of factors including hardness, algae density and algae type. For McKinley Reservoir, the effective dose per algae species is approximately:

- 0.1-0.2 ppm Cu for sensitive algae
- 0.2-0.3 ppm for moderate algae
- 0.3-0.6 ppm Cu for resistant species

The 68 – 130 kg dose GEID applies is in the moderate range for low algae densities. Copper-resistant species such as *Peridinium* require a 200 kg dose. It is always best to monitor and treat impending algae blooms since dense blooms require more copper sulphate and algal byproducts can affect consumer health if a cyanobacteria bloom goes unchecked.

No stress from copper sulphate was ever evident in the fish populations. Similarly, the zooplankton population consisting of cladocerans and copepods with a small rotifer component, was not observably harmed by GEID's low-dose treatments.

The size of algae affect filtration and possibly the fine screen that have been trialed for use at McKinley Reservoir. The sizes measured from McKinley samples in 2014 are presented in Table 2.3-4.

Table 2.3-4: Dimensions of dominant algae in McKinley Reservoir (current sources)

Algae Type	Dominant species:	Source	Dimensions in microns
Flagellates	Cryptomonads	both	23 x 10 oval
	Small flagellates	both	10 – 24 dia
	Peridinium	McK	33 long x 29 wide
	Ceratium	McK	>100 x 30
Diatom (silicate)	Asterionella formosa	Ok Lk	93 x 2 x 4 (needle shape, colony)
	Cyclotella (wehr)	Ok Lk	8.2diax2.85thick (cookie tin shape)
	Fragilaria crotonensis	Ok Lk	65.8 x 2.6 x 2.6 (spindle shape)
	Melosira sp	Ok Lk	26 dia x 14 (tube-shaped chain)
	Synedra acus	Ok Lk	71 x 2.2 x 2.2 (spindle shape)
	Synedra ulna	Ok Lk	308 x 3.4 x 5 (spindle shape)
	Tabellaria fenestrata	Ok Lk	86 x 12.3 x 4.6 (brickshape, colony)
Green	Chlorella vulgaris	McK	5.0 – 6.8 sphere
Cyanobacteria	Planktothrix	Ok Lk	2.6 dia x 50 – 900 (thread-like)
Golden (silicate)	Dinobryon sertularia	McK	45 x 7.5 (cone-shaped, colonies)
Zooplankton			
Cladoceran	Bosmina	McK	380 x 206 (spheric)
Rotifer	Keratella	McK	145 x 56 x 30 (curved box)
Rotifer	Polyarthra	McK	57 x 29 (tube)
Copepoda	Calenoid	McK	700 x 200 (oval)

(silicate) = frustule (shell) very resistant to decomposition affects filters

2.4 Macrophyte Control

From 1999 – 2003, Eurasian milfoil (*Myriophyllum spicatum)* beds expanded around the perimeter of McKinley Reservoir in the organic sediments. Milfoil influences water quality by: releasing nutrients from the sediments to the water, encouraging filamentous algae growth, harboring invertebrates and providing food for waterfowl.

Attempts to control the spreading milfoil began in 2000. To date milfoil growth was curtailed by:

- Hand-pulling plants with roots attached (primarily cosmetic) (2003)
- Using erosion control fabric weighted down by rock (2003)
- Winter draw-down, preferably for two consecutive winters (2002/3) (2004/5) (2007/8) (May no longer be suitable, even with re-filling prior to spring)
- Removal of sediment and root masses by machine during a draw-down (2004)
- Maintaining high summer water levels to limit light penetration available for milfoil growth (2000-present).

Water clarity over the growing season was much better than in previous years and reached an all-time summer record of 7 m secchi depth on June 8 2015. The increased light penetration into the water column allows for milfoil growth deeper in the reservoir but to date this has not yet been observed. This was expected and is the reason we tried to keep the reservoir sides steep (limits ideal growth area of 1 – 4 m depth). As a result, milfoil growth was low in 2015.

2.5 Waterfowl Control

During May through October of earlier years, as many as 40 Canadian geese arrived at McKinley Reservoir at dusk. Even a few birds are a concern because of the pathogens their wastes contain. Each bird excretes roughly 100 - 500 g of fecal matter per day. 200 birds for several months equates to about 1-3 tons of waste on the shore and in the reservoir. Their presence increases raw water bacterial counts. The current program of firing flares and noise makers at any birds in and around McKinley Reservoir was successful in recent years. Trained falcons and dogs have also been used with success at McKinley Reservoir. Few birds were seen utilizing McKinley Reservoir since 2013.

2.6 Benthic Invertebrate and Zooplankton Control

None of the 2014 or 2015 weekly samples showed excessive chironomid or zooplankton growth. The rainbow trout fingerlings imported in May 2014 and the resident minnow populations will be helping to lower their numbers. Zooplankton numbers were low throughout 2015, likely because of a combination of predation by fish and reduced available food from the smaller algae populations. This is good for water quality but also means that grazing rates on small algae are low.

2.7 Sediments

The accumulated sediments in McKinley Reservoir play a key but not exclusive role in nutrient/colour concentrations. An organic surface sediment layer has accumulated to a depth of 5 mm near shore and up to 8 cm in deeper water and finally a maximum of 20 cm of black silty mud along a deep transect perpendicular to the dam. The later area may have been a saline wetland prior to damming McKinley Reservoir (similar to Wilden ponds). Nutrients, colour, and dissolved iron recycle from McKinley sediment to the water column, particularly when the overlaying water becomes anaerobic.

With the construction and infilling of the fingers, fine sediments that are readily disturbed by wave turbulence line the substrates. Their re-suspension contributed to the fall 2014 turbidity event (Section 2.10).

2.8 Distribution System

2.8.1 Biofouling

Colour within GEID's distribution system immediately downstream from McKinley Reservoir averaged 63 ± 25 ACU in 2013 with spikes as high as 119 ACU. During 2014, these numbers dropped to 26 ± 24 ACU and further to 17 ± 7 ACU in 2015 (Figure 2.8-1). For reference, the aesthetic guideline for water colour is <15 TCU. A drop in water colour means that the load of suspended and dissolved organic material entering the distribution system dropped since the conversion to Okanagan Lk inflows. Chlorine further reduced water colour by: inducing mineral oxidation, encouraging particulates to clump together and by destroying algae pigments.

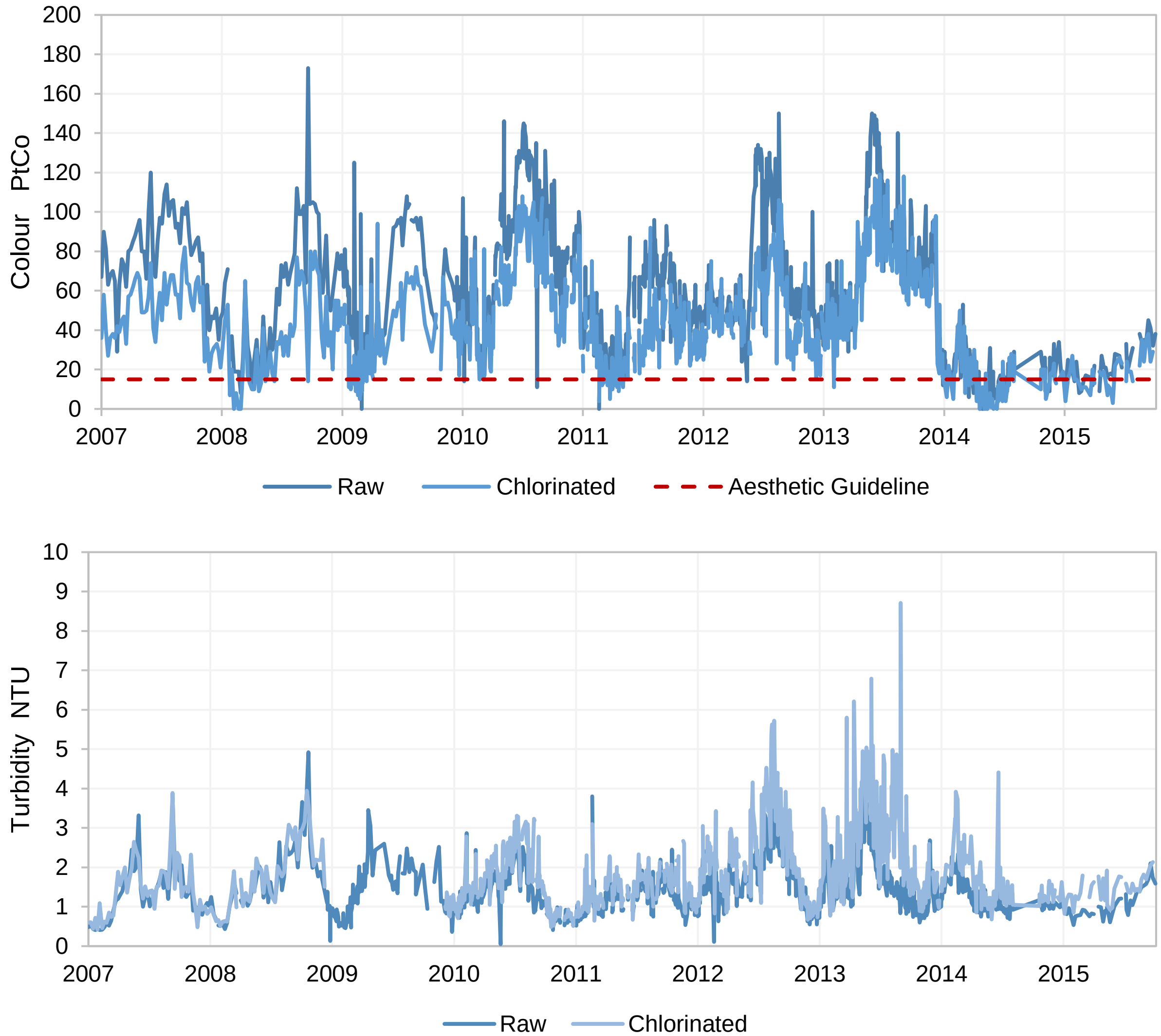

Figure 2.8-1: Colour and turbidity in McKinley raw and chlorinated water, 2007-2015

Turbidity in the GEID distribution system fed by McKinley Reservoir and measured at Union Road annually averaged 1.53 ± 0.32 NTU and 9 ± 3 ACU colour from 2010-2012 (Figure 2.1.14). Distribution system turbidity averaged 0.6 NTU at Union Rd in 2014. This is a big improvement in both aesthetics and water quality.

Like all Okanagan water supplies, the GEID distribution system develops coatings of organic biofilms within the pipes, particularly during the summer months. Low pH anaerobic water, lake sediments, and low flow areas of pipelines are ideal IRB habitats. Normal chlorine doses do not limit growth because biofilms are protected by mucilage sheaths and a build-up of precipitated material and microorganisms (bacteria, fungi, yeasts). Up to 2013, episodes of system-wide dirty water involved water from McKinley Reservoir with large amounts of IRB (iron-related bacteria). While algae require light to grow, IRB do not and their growth in distribution systems can be very rapid. During 2014, the amount of IRB seen in reservoir samples was much lower than in previous years, due to less intense anaerobic conditions and therefor lower iron concentrations. Similarly, as iron concentrations declined, die-off of the high iron-requiring pipeline biofilms also occurred. By

2015 biofilms in the pipes were reduced compared to pre-Okanagan levels. The community in the McKinley system biofilm should now be similar to the biofilm in the Dewdney/ McKinley Landing system also fed by Okanagan Lake.

Prior to the switch to Okanagan Lk as source water, material from GEID's line flushing was tested and showed high IRB counts. For example, a clogged irrigation filter contained 140,000 CFU/100 mL which represents a very large population of viable IRB. Line-flushed material collected in 2007 consisted of 53-54% fixed solids (mineral = precipitated metals and suspended solids) and 46-47% volatile solids (organic = algae bacteria and detritus). We anticipated that most of the reduction and adjustment of the biofilms to lower iron concentrations will be accomplished by 2015, and these tests should be repeated in 2016. McKinley Reservoir itself is now less hospitable to IRB; its iron concentrations, dissolved oxygen, pH, water temperature are no longer in the ideal range for IRB growth (Table 2.8-1). This means fewer IRB are available to the distribution system biofilm.

Table 2.8-1: Habitat requirements for IRB compared to habitat conditions in McKinley Reservoir since conversion to Okanagan Lake inflows

Habitat requirements	Conditions in McKinley Res. with Ok. Lk Inflows
pH 5.4 – 7.2	pH more basic, often above IRB range even in deep water: 7.53 ± 0.30 (meter 1m off bottom in 2015)
Dissolved oxygen < 5 mg/L, usually <2 mg/L	Less extensive and shorter anaerobic conditions throughout McKinley
Min 5-7°C, bacteria prefer 15-30°C	Much cooler surface and cooler deep water
Diss-Fe must be > 0.1 mg/L	0.08±0.05 mg/L in 2014 in McKinley Raw (Jan – June 2014 data from GEID)

Water entering the GEID distribution system from McKinley exceeded 15°C for 3-4 months every summer. The dissolved iron requirement of 0.1 mg/L was almost always met in McKinley but averaged only 0.08±0.05 mg/L from January to June in 2014.

2.8.2 Trihalomethanes (THM)

Trihalomethanes form from the reaction of simple organic molecules and chlorine or bromine. THM production increases with increasing raw water organic concentrations, the chlorine dose and contact time, and water temperature. In previous years, the high organic load in McKinley Reservoir water caused high THM production in GEID water. The maximum allowable concentration of THM's is 0.10 mg/L total THM (Canadian Drinking Water Quality Guidelines) and it was frequently exceeded during the summer in the GEID system (Figure 2.7-1). Most Okanagan water supplies with algae blooms have this problem. Chloroform was the most prevalent THM because chlorine is added for disinfection. The 2007-2013 samples for total THM ranged from 0.006 in winter to 0.32 mg/L in summer (Table 2.7-1). In contrast, THMs averaged only 0.080 ± 0.010 mg/L and only one sample (Rittich Rd) exceeded the guideline during 2015 (Figure 2.8-2).

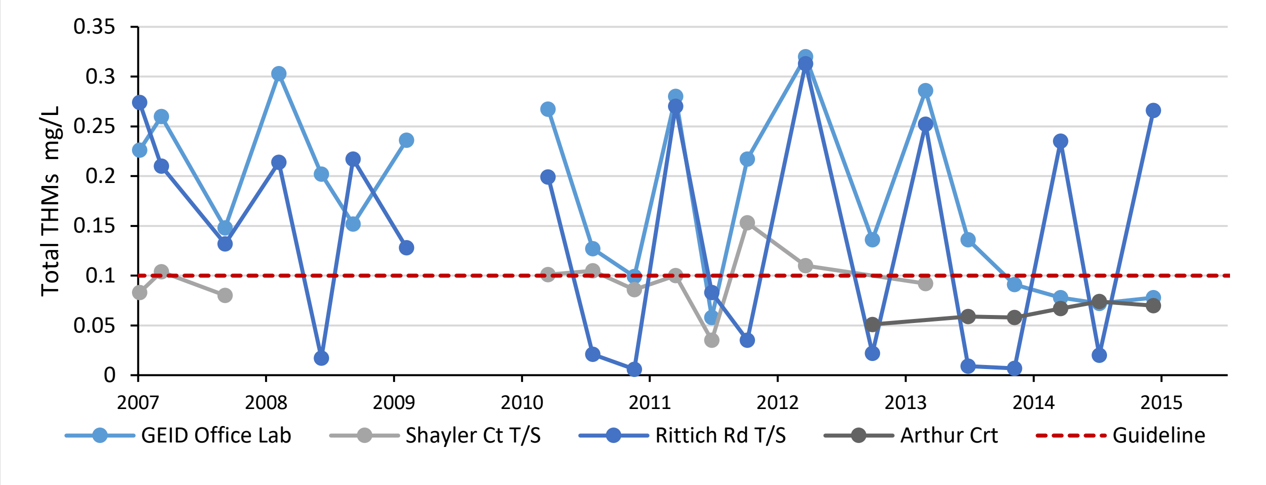

Figure 2.8-2: Total THM concentration in GEID distribution system, 2007 - 2015

Table 2.8-1: THM in GEID distribution system: 2007-2013 versus 2014-2015

2007 - 2013	Min	Max	Average	Std.Dev
GEID Office Lab	0.058	0.320	0.203	0.078
Rittich Rd T/S	0.006	0.313	0.141	0.109
Shayler Ct T/S	0.035	0.153	0.095	0.028
Arthur Ct	0.051	0.059	0.055	0.006
2014-2015				
GEID Office Lab	0.072	0.091	0.080	0.008
Rittich Rd T/S	0.007	0.266	0.132	0.138
Arthur Crt	0.058	0.074	0.067	0.007

2.8.3 Bacteriological

GEID regularly tests its source water and its distribution system for indicator bacteria. Total coliforms are generally harmless species of bacteria that are used to measure the effectiveness of disinfection. *E. coli* is used as an indicator of probable fecal contamination. Up to 2013, McKinley Reservoir experienced increased total coliform counts in most summers because the warm water facilitates rapid bacterial replication (Figure 2.7-2). Similarly, *E. coli* counts were usually very low in McKinley raw water in the winter but increased each summer.

Bacteria counts in McKinley raw water averaged 33 ± 84 CFU/mL from 2010-2013 and 25 ± 43 CFU/100mL during 2014-2015 (Figure 2.8-2). However, they reached 140 CFU/100 mL total coliform and 16 CFU/100 mL *E. coli* during Aug-Sept 2015 in raw reservoir water. The cause of this spike is unknown but may relate to waterfowl use.

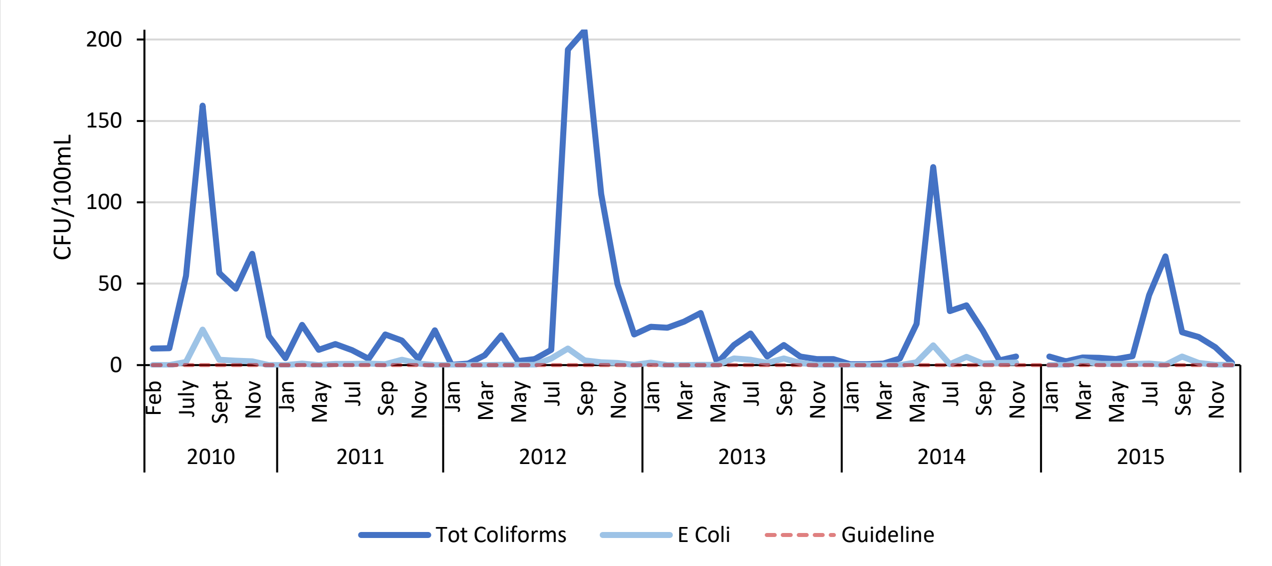

Figure 2.8-2: Bacterial counts in McKinley Reservoir raw water: 2010-2014

The Canadian Drinking Quality Guidelines stipulate that zero CFU/100mL of both total coliforms and *E. coli* be detected in treated drinking water. All treated water samples from 2013-2015 contained zero CFU/100mL of *E. coli* but several samples of treated water each year contained detectable total coliforms. This indicates that occasionally the chlorine system at McKinley Reservoir was insufficient to fully disinfect the water. While McKinley Reservoir showed improved total coliform counts, *E. coli* were essentially unchanged (Table 2.8-2).

Table 2.8-2: Total coliform and *E. coli* counts in McKinley Reservoir raw water, 2010-2013 vs 2014-2015

	Total Coliforms				E.coli			
	Min	Max	Avg	SD	Min	Max	Avg	SD
2010-2013	0	650	33	84	0	50	2	6
2014-2015	0	190	25	43	0	22	2	5

2.9 Summary of results of conversion to Okanagan Lake water

Result	Positive effects	Negative effects
Increased pH	-Better buffering, more stable pH	-Higher pH affects chlorination -Higher pH reduces effectiveness of $CuSO_4$ algaecide
Lower colour	-Lower colour in McKinley increases water clarity	-Potential for expansion of Milfoil beds
Lower temperature	-Overall cooler water column reduces development of biofilm in the distribution system	
Lower phosphate	-Less of this key nutrient to fuel algae blooms	
Change in algae populations	-Smaller algae blooms with fewer taste & odour causing species present	-Different species dominating reservoir including problematic cyanobacteria
Cool dense inflows	-Reduces stability of groundwater layer preventing it from growing as large as previous years	-Groundwater layer mixes freely into water column throughout the fall decreasing water quality in McKinley
Shorter stratification	-Less iron in outflows to fed distribution system IRB -Less IRB in outflows to supply biofilm	-Partial summer overturns increase summer nutrient supply -Spring and fall overturn blooms last longer

3.0 RECOMMENDATIONS

1.1 McKinley Reservoir Recommendations

Reservoir Elevation

- Until the new shoreline areas along McKinley Reservoir stabilize, draw-downs below 27’6” are not recommended during the ice-free period of the next 3-5 years. During ice cover, drawdowns are safer.
- Slow reservoir draw-downs are recommended over the next 5 years to help prevent failure of the infill slopes
- Re-filling following ice-off should be avoided, particularly from levels near or below 27’6”, for the next few years until fines deposited from the 2014 turbidity incident can re-sort deeper into the reservoir
- Holding McKinley Reservoir near full pool all summer helped limit aquatic weed growth, algae blooms and intrusion of invertebrates into the GEID system. It also helped stabilize reservoir stratification
- Sample extent of groundwater layer in McKinley in 2016

Reservoir Turbidity

- Repeat sediment accumulation rate tests in 2016 to determine current rates of organic accumulation versus those of 2012
- Consider limestone capping or other capping material to stabilize the shallows that generated turbidity during the fall 2014 draw-down. Other capping materials could include weathered and crushed blast rock, coarse sand etc. Ironically, milfoil beds will limit sediment re-suspension as well

Algae

- Consider using the copper ionizer approach to prevent algae blooms in McKinley Res. if algae blooms persist in 2016, and this may become important if the bypass is used full time
- Algae monitoring in McKinley Reservoir should continue following the usual weekly format from May-Oct 2016 and less frequently (twice monthly from ice-off through April)

Reservoir Operations

- Using the new bypass should be considered from ice-off through the ice-off bloom to the point where turbidity subsides below 1 NTU and secchi depth improves above 4 m; and again from fall overturn through that algae bloom. These “bypass” periods were similar in 2014 and 2015 and they occur during low irrigation demand.
- Using the old lower port for the majority of the flows will decrease stagnation but must be initiated before the anaerobic zone develops to avoid drawing poor-quality water into the system
- The anaerobic drain should be opened when an anaerobic zone is present in McKinley Reservoir
- The anaerobic drain should no longer be needed during the Feb-March ice covered period on McKinley Reservoir *while* Okanagan Lk inflows are occurring

3.2 Distribution System Recommendations

- We expect that most of the reduction and adjustment of the biofilms to lower iron concentrations will be accomplished by 2015, and tests for IRB and fixed/volatile solids should be repeated on material flushed from the lines in 2016.

Appendices to follow

Glenmore Ellison Improvement District Biochemistry & Limnology Report on Upper Elevation GEID Reservoir Lakes

2015

Prepared for: Glenmore Ellison Improvement District
445 Glenmore Road, Kelowna

Larratt Aquatic Consulting, 3025 Ensign Lane, West Kelowna, B.C. V4T 2Z4

Phone: 250.769.5444 Fax: 250.769.3233 Email: heather@larratt.net

Executive Summary

The grey text in this executive summary is an overview of all research to date, followed by 2015's summary by reservoir.

Upper Elevation Storage

Postill, South, and Bulman Reservoirs all develop anaerobic zones each summer. Of the three upper elevation storage reservoirs, Bulman Reservoir water has the most water colour and nutrients. Bulman outflow colour consistently exceeds 100 TCU throughout the summer. Cattle trampling the shoreline and contributing *E. coli* was a problem at Bulman Reservoir and at Postill outlet historically. Shorelines and creek riparian areas are at risk. Use of Bulman was reduced to drought years and non-summer months. Bulman summer drawdown zone should be minimized to avoid cattle and ATV access to the reservoir sediments regardless of its downstream use. 2012 was the last full year of only upland storage supplying McKinley Reservoir. McKinley Reservoir is now supplied entirely by Okanagan Lake.

Postill - 2015

- Turbidity and apparent colour averaged 1.7 NTU and 144 ACU (Apparent Colour Units) respectively during the 2015 growing season.
- Secchi depth increased to 2.2 m from 1.9 m in 2015.
- Nutrient-rich, coloured, anaerobic water was discharged every summer (2010-2015).
- A cyanobacteria (blue-green algae) bloom occurred every summer since sampling began in 2005 but should not affect downstream water quality through dilution and bacterial toxin deactivation as the water travels down Mill Creek.
- Algae concentrations decreased in Postill for the second year in a row.

South – 2015

- Secchi depth decreased from 2009-2012 and then increased from 2012-2015.
- The late summer algae bloom in 2015 was larger than 2014 with a corresponding increase in chlorophyll-a.
- Water quality released by South Reservoir was the best of the three upper reservoirs.
- Turbidity averaged only 0.78 NTU in the outflow in 2015.
- Inorganic N remained undetectably low in South Reservoir.

Bulman - 2015

- Bulman colour continued to decline and was 79 TCU at the surface in 2015.
- Secchi depth increased again and was the highest recorded at 2.0 m in 2015.
- Bulman water was not released during the summer of 2015.
- Bulman averaged an N to P ratio that strongly favored cyanobacteria.
- Cattle and vehicle disturbance were less in 2015 because of the high water level but continued to be a problem in the Bulman watershed.

Mill (Kelowna) Creek - 2015

- Water colour and turbidity trend together as the water descends to the GEID intake.
- The 2015 freshet was smaller than 2012-2014 and colour was lower in the creek.
- Mill Creek was not used to supply McKinley Reservoir in 2015.

Distribution System in Ellison - 2015

- Ellison was supplied by Airport Well #1 through the winter and along with Ellison Well during the summer.
- Mill Creek water was used only as needed to supplement well water during peak demand in the summer.
- Airport Well #1 averaged a low iron concentration of 0.12 mg/L and a low turbidity of 0.3 NTU from 2010-2015.
- Ellison should continue to be supplied by only Airport Well #1 as much as possible.

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Tables

Suggested Reference

Self, J., Larratt, H. 2016. Glenmore Ellison Improvement District Biochemistry and Limnology Report on Upper Elevation GEID Reservoir Lakes, 2015. Larratt Aquatic Consulting Ltd. Prepared for Glenmore-Ellison Improvement District.

Acknowledgements

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Report prepared by: Larratt Aquatic Consulting Ltd.

Jamie Self:	Heather Larratt:
Aquatic Biologist, B.Sc., R.P.Bio	Aquatic Biologist, B.Sc., R.P. Bio

Disclaimer: In preparing this report, Larratt Aquatic Consulting Ltd. (LAC) exercised the level of care and skill normally exercised by science professionals, subject to the same time, financial and physical constraints applicable to the services. No liability is incurred by LAC or Glenmore Ellison Improvement District for accidental omissions or errors made in the preparation of this report.

1.0 Introduction

1.1 Background

Glenmore-Ellison Improvement District (GEID) currently obtains water from Postill, South, and Bulman Reservoirs. GEID historically used an average of 5046 ML, however, GEID currently uses much less for drinking water because McKinley Reservoir is now supplied by Okanagan Lake. These reservoirs produce acidic water high in iron, colour and organic particulates. The water travels down Kelowna (Mill) Creek to the headgate. It used to flow to McKinley Balancing Reservoir but that ended in 2013. The upper elevation reservoirs now provide a maximum of 1600 – 1700 gpm to the Ellison system.

1.2 Goals of 2015 Study

1) Refine the knowledge of water chemistry in GEID's upper elevation storage using annual August sampling.

2) Recommend ways to improve water quality in the current GEID reservoir system.

3) Update GEID reservoir water quality database with 2015 data, run statistical tests to identify significant trends or change in reservoir condition.

1.3 Definitions

Glossary: The following terms are defined as they are used in this report.

Term	Definition
Aerobes	Organisms that require >1-2 mg/L dissolved oxygen in their environment
Accrual rate	A function of cell settlement, actual growth and losses (grazing, sloughing)
Algae bloom	A superabundant growth of algae
Anaerobic/anoxic	Devoid of oxygen
Benthic	Organisms that dwell in or are associated with the sediments
Bioaccumulation	Removal of metal from solution by organisms via adsorption, metabolism
Bioavailable	Available for use by plants or animals
Cyanobacteria	Bacteria-like algae having cyanochrome as the main photosynthetic pigment
Diatoms	Algae that have hard, silica-based "shells" frustules
Fall overturn	Surface waters cool and sink, until a fall storm mixes the water column
Eutrophic	Nutrient-rich, biologically productive water body
Green algae	A large family of algae with chlorophyll as the main photosynthetic pigment
Inflow plume	A creek inflows seeks the layer of matching density in a receiving lake, mixing and diffusing as it travels; cold, TSS, and TDS increase water density
Light attenuation	Reduction of sunlight strength during transmission through water
Limitation,nutrient	A nutrient will limit or control the potential growth of organisms e.g. P or N
Limnology	The study of the physical, chemical, and biological aspects of freshwater
Littoral	Shoreline between high and low water; the most productive area of a lake
Macronutrient	The major constituents of cells: nitrogen, phosphorus, carbon, sulphate, H
Micronutrient	Small amounts are required for growth; Si, Mn, Fe, Co, Zn, Cu, Mo etc.
Microflora	The sum of algae, bacteria, fungi, *Actinomycetes,* etc., in water or biofilms
Myxotrophic	Organisms that can be photosynthetic or can absorb organic materials directly from the environment as needed
Pelagic	Open water deeper than 6 meters in a reservoir or lake (less productive)
Peak biomass	The highest density, biovolume or chl-a attained in a set time on a substrate
Periphyton	Algae that are attached to aquatic plants or solid substrates
Phytoplankton	Algae that float, drift or swim in water columns of reservoirs and lakes
Photic Zone	The zone in a water body that receives sufficient sunlight for photosynthesis
Plankton	Those organisms that float or swim in water
Reclamation	A restoration to productivity and usefulness
Redox	The reduction (-ve) or oxidation (+ve) potential of a solution
Reducing env.	Devoid of oxygen with reducing conditions (-ve redox) eg. swamp sediments
Residence time	Time for a parcel of water to pass through a reservoir or lake (flushing time)
Riparian	The interface between land and a stream or lake
Secchi depth	Depth where a 20 cm secchi disk can be seen; measures water transparency
Seiche	Wind-driven tipping of lake water layers in the summer, causes oscillations
Thermocline	The lake zone of greatest change in water temperature with depth (> 1°C/m); it separates the surface water (epilimnion) from the cold hypolimnion below
Zooplankton	Minute animals that graze algae, bacteria and detritus in water bodies

Lake Classification by Trophic Status Indicators

Trophic Status	chlorophyll-a ug/L	Total P ug/L	Total N ug/L	Secchi disc m	primary production mg C/m^2/day
Oligotrophic	0 – 2	1 – 10	<100	> 6	50- 300
Mesotrophic	2 – 5	10 – 20	100 – 500	3 – 6	250 – 1000
Eutrophic	>5	> 20	500-1000	< 3	>1000

Nutrient Balance Definitions for Microflora (Dissolved Inorganic N : Dissolved Inorganic P)

Phosphorus Limitation	Co-Limitation of N and P	Nitrogen Limitation
>15 : 1	<15 : 1 – 5 : 1	5 : 1 or less

After Nordin,1985

1.4 Information on Statistical Analysis

Statistical analyses were performed on data to support claims made throughout this report. The use of the word 'significantly' within this report is understood to signify that the claim being made has stood up under statistical analysis. Unless otherwise stated all statistical analysis were performed to a confidence of 95% ($p \leq 0.05$). The ± symbol indicates the standard deviation throughout this report.

2.0 Results and Discussion

2.1 Upper Elevation Storage

Each of GEID's three reservoirs have distinct characteristics but they share the following characteristics:

- acidic, highly coloured water
- low dissolved nitrogen, moderate dissolved phosphorus, productive
- develop anaerobic zones that are iron-rich, coloured, and contain large nutrient loads by late summer
- unlikely to support invasive mussels

Annual sampling in late summer every year provides a "worst case" look at water quality in these reservoirs (Table 2.1.1). The reservoir volume remaining on the sample date influences the results. Monthly sampling by GEID provides additional insight (Table 2.1.2).

Table 2.1.1: Average water quality at GEID upper elevation reservoirs 2002-2015

			Bulman Reservoir		South Reservoir		Postill Reservoir	
Parameter		RDL	Surface	7m	Surface	7m	Surface	7m
pH	pH units	0.01	7.15	6.61	7.19	6.94	6.87	6.52
Colour, True	Color Unit	25	101	126	52	55	57	82
Turbidity	NTU	0.1	2.2	6.8	1.1	2.3	1.5	5.5
UV Transmittance @ 254nm	%	0.1	21.8	17.6	41.6	41.0	39.7	34.9
Alkalinity, Total as CaCO3	mg/L	1	24	25	24	25	13	15
Solids, Total Dissolved	mg/L	5	76	81	53	54	51	59
Carbon, Total Organic	mg/L	0.5	21.0	22.1	13.4	13.3	13.2	14.5
Nitrogen, Ammonia as N	mg/L		0.043	0.130	<RDL	<RDL	<RDL	0.047
Nitrogen, Nitrate+Nitrite as N	mg/L	0.01	0.012	<RDL	<RDL	<RDL	<RDL	0.013
Nitrogen, Nitrate as N	mg/L	0.01	<RDL	<RDL	0.0130	<RDL	<RDL	0.0146
Nitrogen, Nitrite as N	mg/L	0.01	<RDL	<RDL	<RDL	<RDL	<RDL	<RDL
Nitrogen, Total Kjeldahl	mg/L	0.05	0.71	0.81	0.40	0.45	0.40	0.45
Nitrogen, Dissolved Kjeldahl, dissolved	mg/L	0.05	0.63	0.66	0.40	0.37	0.33	0.35
Nitrogen, Total	mg/L	0.07	0.76	0.78	0.44	0.46	0.48	0.47
Nitrogen, Total Dissolved	mg/L	0.05	0.63	0.66	0.40	0.37	0.33	0.37
Nitrogen, Organic	mg/L		0.77	0.59	0.41	0.44	0.36	0.5
Phosphorus, Total	mg/L	0.002	0.028	0.11	0.011	0.027	0.020	0.048
Phosphorus, Dissolved	mg/L	0.002	0.019	0.086	0.007	0.010	0.014	0.020
Orthophosphate	mg/L		0.015	0.072	<RDL	0.008	<RDL	0.025
Iron, dissolved	mg/L	0.1	0.36	1.65	0.12	0.31	0.21	1.08
Iron	mg/L	0.1	0.50	2.21	0.21	0.51	0.31	1.76
Manganese, Diss.	mg/L		0.011	0.194	0.004	0.039	0.007	0.199
Total Manganese	mg/L		0.018	0.217	<RDL	0.086	0.013	0.212
Chlorophyll-a	ug/L	0.1	4.6		1.9		2.3	
Coliforms, Total	CFU/100mL	1	48	15	101	99	88	28
Background Colonies								
Coliforms, Fecal	CFU/100mL	1	2	<RDL	1	1	<RDL	<RDL
E. coli	CFU/100mL	1	1	<RDL	1	<RDL	<RDL	<RDL

Table 2.1.2: Colour and turbidity in upper elevation reservoir outflows 2010-2015

	Postill Outlet		Bulman Outlet		South Lake Outlet	
Date	Apparent Colour	Field Turbidity	Apparent Colour	Field Turbidity	Apparent Colour	Field Turbidity
16-Jul-10	127	0.96	260	2.63	125	0.64
29-Jul-10	144	1.2	268	2.08	128	1.05
12-Aug-10	140	0.97	265	2.49	137	1.83
27-Aug-10	127	1.35	256	2.78	108	0.92
17-Sep-10	138	1.85			122	1.3
10-Jun-11	135	1.97	217	2.2	117	2.06
5-Aug-11	105	1.05	259	4.8	84	0.9
19-Aug-11	118	1.13	271	4.4	111	1.13
9-Sep-11	123	1.69	270	5.6	104	1.3
23-Sep-11	138	2.36	275	6.7	103	1.63
14-Oct-11	140	3.48	232	2.9	105	1.29
8-Jun-12	278	2.52	280	4.67	137	0.84
21-Jun-12	163	1.66	290	4.18	144	0.92
6-Jul-12	157	1.99	268	3.28	133	0.85
17-Aug-12	163	2.26	353	6.34	156	1.64
28-Sep-12	152	2.08	312	6.51	145	1.56
24-May-13	170	2.55	210	1.38	137	0.8
10-Jun-13	156	1.74	239	2.09	135	0.51
24-Jun-13	176	1.74	271	7.22		
7-Jul-13	154	1.26	268	3.18	149	0.7
22-Jul-13	169	1.4	252	1.07	156	0.85
7-Aug-13	175	1.6			158	1.51
19-Aug-13	211	1.9			160	1.26
9-Jun-14	145	1.7			114	0.64
23-Jun-14	112	1.09			98	0.59
7-Jul-14	118	0.94			111	1.19
31-Jul-14	134	1.3			151	1.24
15-Aug-14						
25-Aug-14	124	1.81			100	1.15
22-May-15	97	1.09	179	1.39	87	0.59
08-Jun-15	116	1.68			102	0.96
09-Jul-15	107	1.31				
30-Jul-15	109	2.18				
Average	144	1.68	262	3.71	125	1.10

Data Credit – A. Cammell

2.1.1 Postill Reservoir

At 11 m depth and 5575 ML of live storage, Postill Reservoir is the largest of GEID's upper elevation reservoirs. The 24" outlet pipe is very close to the reservoir floor. A large anaerobic zone develops within the bottom water layer and extends to the thermocline every fall. This anaerobic zone is nutrient rich and can develop very high water colour and turbidity. Postill Reservoir is located at the 1384 m elevation.

Postill Reservoir was designed to supply McKinley Reservoir via Mill Creek. Starting in 2014, Postill Reservoir was no longer used to supply McKinley Reservoir because McKinley is now filled from Okanagan Lake. Occasionally this water is used to meet peak demand in the Ellison system, but usually, it discharges via Mill Creek to Okanagan Lake. On September 9 2015, a thermocline was present at 6 m from the surface in Postill Reservoir (2 m from the sediment). The bottom, anaerobic water layer was 1 m thick. This was a small anaerobic zone for Postill. Like most years, the intake withdrew anaerobic water during late summer.

Every year, Postill Reservoir water chemistry is impacted by

- Anaerobic conditions in the bottom water (releases colour, Fe, Mn, nutrients)
- Re-flooding of the sediments exposed in the preceding year's summer draw-down (encourages the release of oxidized nutrients and colour)
- Drawdown zone disturbance from ATV's and cattle (accelerates nutrient release)

Postill outflow turbidity averaged a moderate 1.6 ± 0.5 NTU while colour averaged a high 107 ± 8 ACU (apparent colour units) during the 2015 growing season (GEID in-house analyses). These numbers were below previous years (Figure 2.1.1). There appears to be a declining trend in colour from 2013-2015. This may be related to the higher water level since Postill stopped supplying McKinley Reservoir. Turbidity and colour decreased over the summer as the effects of freshet faded. The late summer secchi depth averaged 2.2 ± 0.5 m from 2009-2015 due to the high iron (R=-0.61) and algae activity (R=-0.65). Postill's secchi depth decreased from 2009-2012 but increased again from 2013-2015 (Figure 2.1.13). The increase in secchi is caused by the decrease in water colour, and likely relates to a combination of reduced disturbance of the draw-down zones by motorized recreators, watershed condition and climate factors.

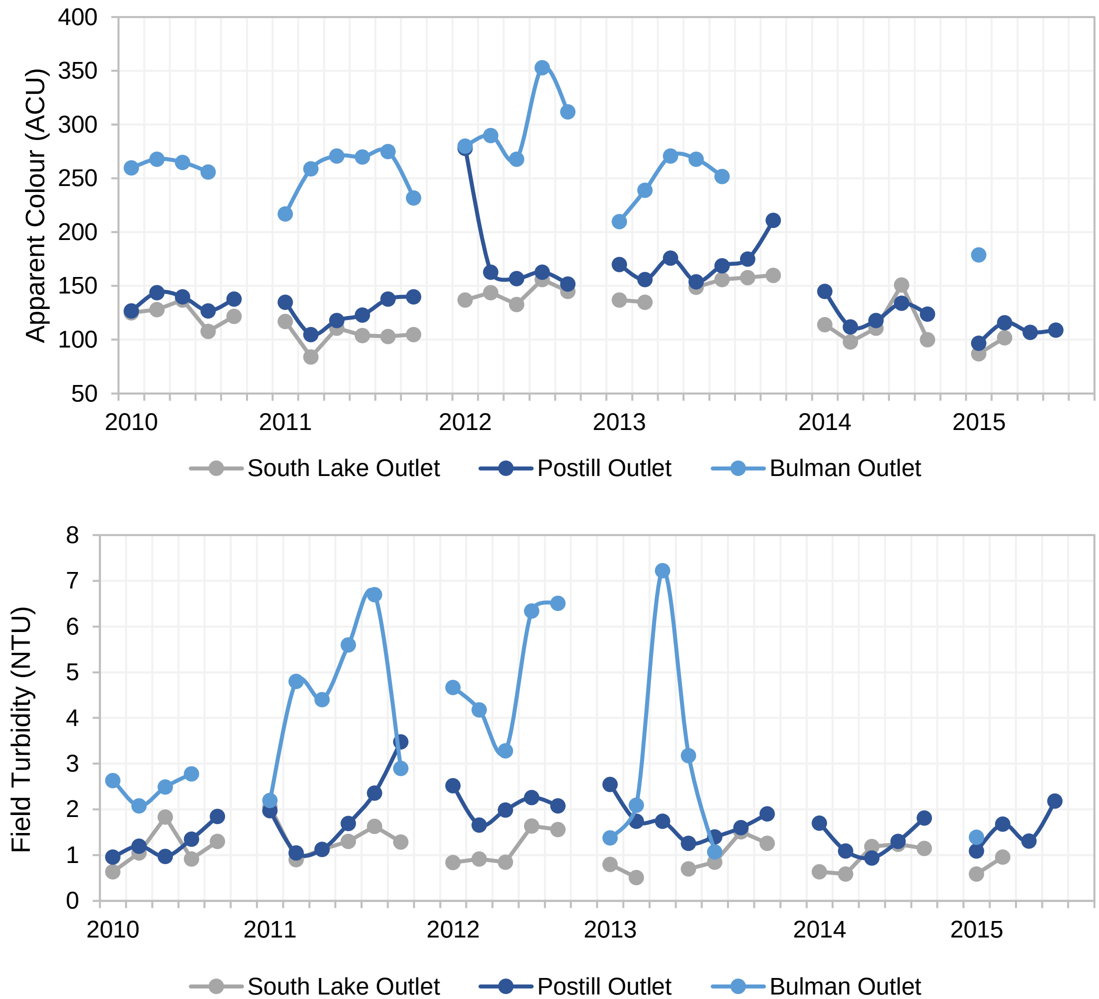


Figure 2.1.1: Apparent colour and field turbidity in upper elevation reservoirs, 2010-2015

Iron and manganese are released from Postill sediments under anaerobic conditions. These metals accumulate in the bottom water and supply the outlet water with more than 6 times the surface Fe (2006-2014) and nearly 14 times Mn concentrations (2004-2008). In 2015, however, the anaerobic zone was very small (1 m thick) and there was not a difference between surface and deep iron samples (Figure 2.1.2). September 2015 samples measured 0.46 mg/L T-Fe at the surface and 0.48 mg/L T-Fe in the bottom water. Total iron in Postill Reservoir surface waters have been stable since 2006 while T-Fe at 7 m has been decreasing (Least Squares Regression, p=0.047; Figure 2.1.2). This is a positive trend from a drinking water quality perspective.

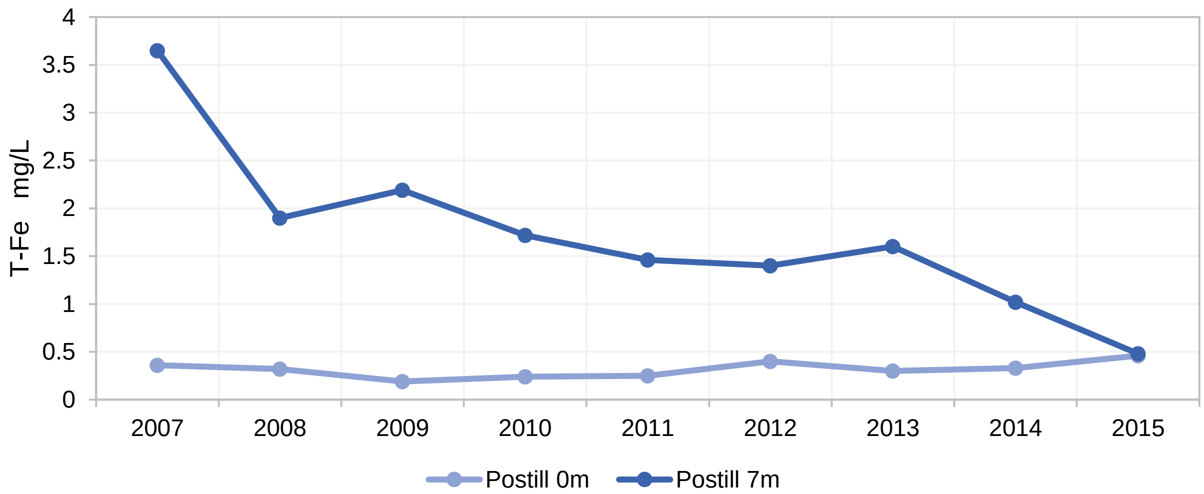


Figure 2.1.2: Total iron in Postill Reservoir fall surface and deep water samples, 2006-2014

Dissolved nutrient concentrations in Postill Reservoir surface water averaged 0.481 ± 0.281 mg/L total nitrogen (T-N) from 2009-2015 and 0.020 ± 0.011 mg/L total phosphorus (T-P) from 2006-2015 (Figure 2.1.3). This gave an N:P ratio of 24:1 that indicates possible phosphorus limitation in Postill Reservoir. Most nitrogen was organic and TKN averaged 0.401 ± 0.178 mg/L at the surface and 0.451 ± 0.148 mg/L in the deep anaerobic water during 2002-2015. Organic nitrogen at the surface was the highest recorded to date at 0.96 mg/L. This was probably because of nitrogen tied up in algae cells. Organic nitrogen is not readily available for consumption by algae and therefore Postill Reservoir is actually nitrogen limited. This explains why it produces blooms of nitrogen-fixing cyanobacteria each summer (Figure 2.1.5). The intensity of Postill Lake anaerobic conditions relates to the volume remaining in the reservoir on the sample date rather than a change in its chemical behavior. Phosphorus averaged 2.3 times higher in the deep water than the surface water. Nutrient concentrations were far higher in the anaerobic zone than those in the surface water in years with a thick anaerobic zone.

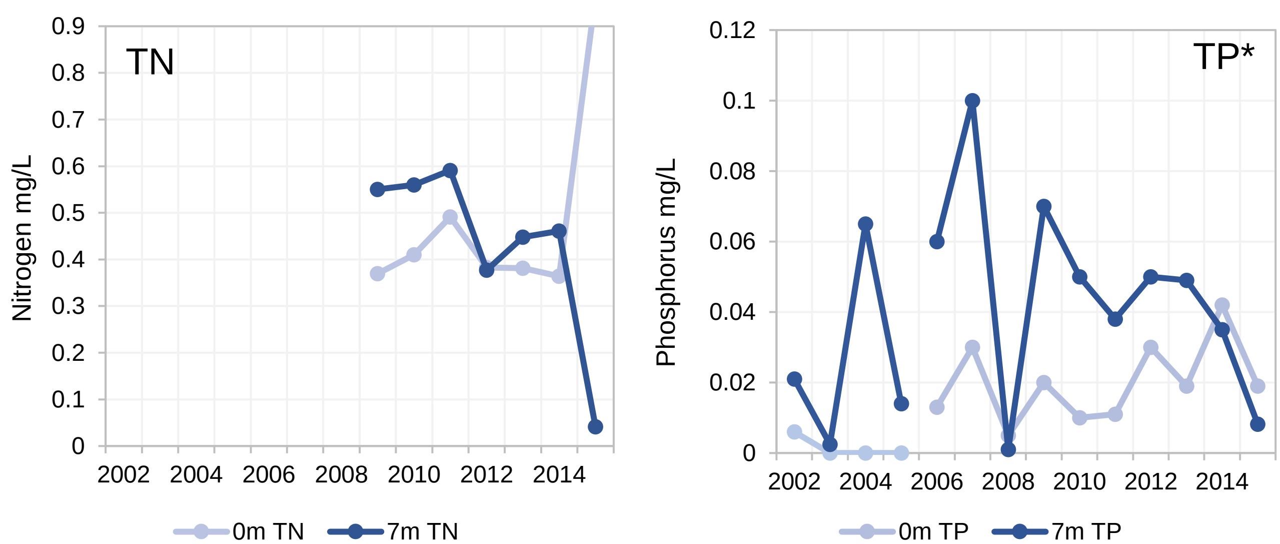


Figure 2.1.3: Nitrogen and phosphorus in Postill Reservoir, 2002-2015
* 2002-2005 P is orthophosphate, 2006-2014 is total phosphate

Total organic carbon is made up of dissolved organic acids and algae plus bacteria. TOC in Postill Reservoir ranged from 7.8 – 23.5 mg/L since 2006 and was the lowest recorded at only 7.8 mg/L in 2015 (Figure 2.1.5). The TOC data appears to be decreasing since 2012 in Postill and the other two high elevation reservoirs as well. This is likely related to the decrease in colour caused by the new water management regime. None the less, these TOC concentrations were high and supply Postill Lake food chains. Total organic carbon in all three reservoirs trended together and is indicative of watershed condition, local climate influences and GEID management decisions.

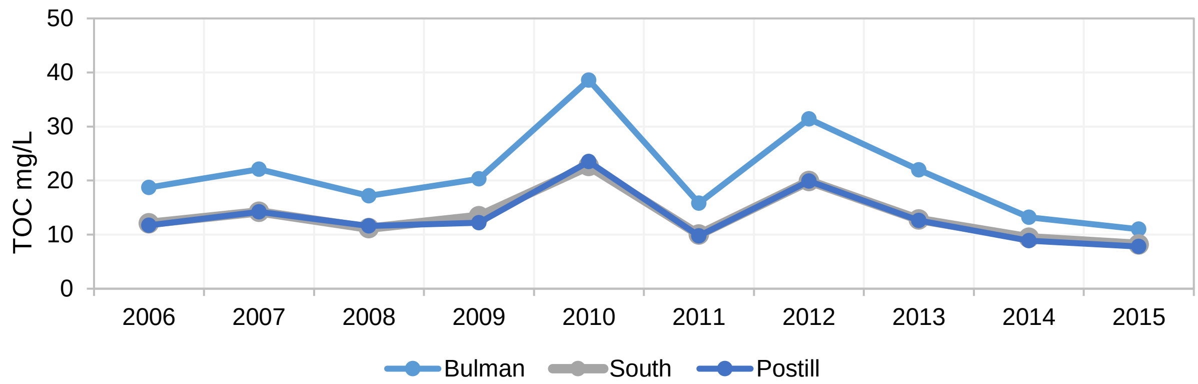


Figure 2.1.4: Total organic carbon in GEID upper elevation reservoirs, 2006-2015

Postill Reservoir's late summer algae community is usually dominated by a selection from six species of cyanobacteria (Figure 2.1.5). These cyanobacteria species concentrate in the surface meter and very low densities were found in the Postill outflow. The chlorophyll-a concentration in the surface water was moderate at only 3.8 µg/L in September 2015. The dominant algae type in 2014 was the green algae *Closterium spp.* Green algae produce much more chlorophyll-a than other types of algae and this relates to the higher than usual chlorophyll-a measure at Postill in 2015. Algae concentrations increased in Postill from 2008 to 2013 (R^2=0.94) but dropped in 2014 to 2015. Fluctuations in the algae populations over the years correspond to nutrient, climatic conditions, and water management decisions. From a water quality perspective, 2014 and 2015 were good years, with minimal cyanobacteria production. Thus it appears that keeping Postill full limits cyanobacteria production.

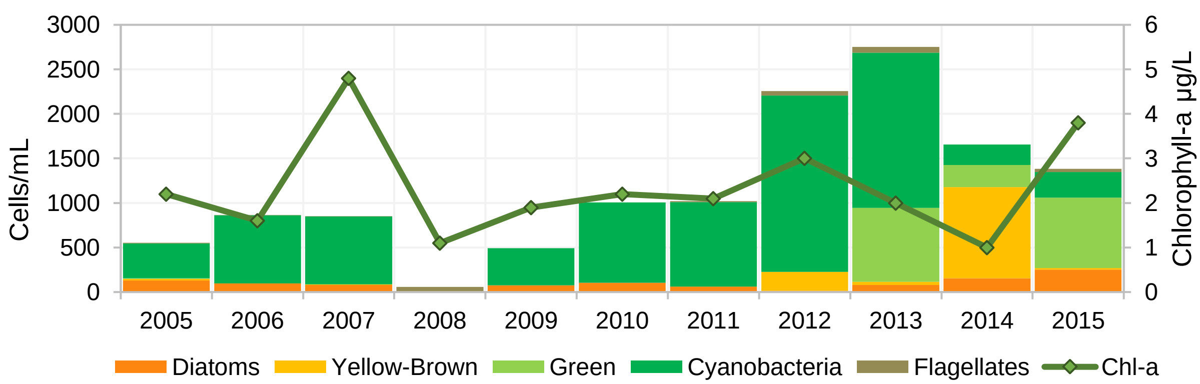


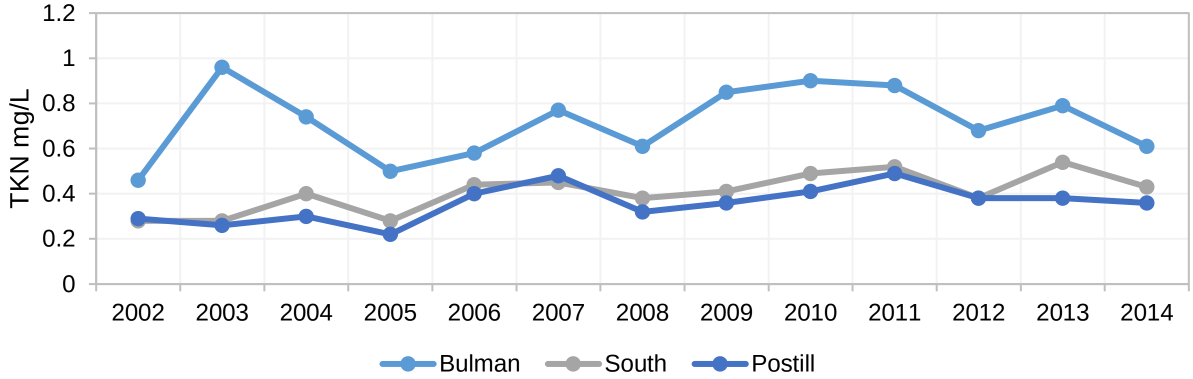
Figure 2.1.5: Postill late summer algae counts and chlorophyll-a concentration, 2005-2015

Postill cyanobacterial blooms would be a serious concern if they occurred in a terminal reservoir, but cyanotoxins released in Postill Reservoir water are diluted by other inflows and deactivated by bacteria enroute to the Mill Creek headgate.

2.1.2 South Reservoir

South Reservoir stores 772 ML of active storage. There is a deeper area beyond the reach of the intake. The chemistry of water released from South Reservoir is superior to GEID's other reservoir lakes due to its groundwater input and the absence of anaerobic conditions in its shallow outlet basin. The outlet gate angles upward at 45°, reducing the volume of low-quality bottom water pulled into South Reservoir's discharge. Groundwater causes higher pH and hardness making South Reservoir less prone to high colour and excessive nutrient concentrations (Figures 2.1.6 and 2.1.1). Although thermoclines develop in the main body of the lake, thermoclines and therefore anaerobic conditions do not develop in the shallow outlet basin. All of these characteristics of South Reservoir cause lower water colour, metals, and a better nutrient balance than the other GEID reservoirs. It is located at elevation 1391 m. Water exits South Reservoir to Morrison Creek.

South Lake was near full pool on September 9 2015. This is unusual for South and occurred because GEID does not need to use the upper elevation reservoirs to supply McKinley Reservoir anymore. Despite South Reservoir's shallow 5 m depth, a distinct 1-2 m thick bottom water layer was present in most years and indicated dense groundwater seeping into the reservoir basin. Secchi depth in South Reservoir averaged 2.3 ± 0.6 m from 2009-2015 and measured a record high 3.2 m in 2015. Secchi depth correlated strongly to colour (R= -0.87) and iron (R= -0.74). South's secchi depth decreased between 2009 and 2012 (R= -0.99) but appeared to begin to increase again from 2012-2015 (Figure 2.1.13). The increase in secchi depth is related to a decrease in colour and TOC caused by stable higher water level in South. Maintaining a reservoir at full pool is beneficial from a drinking water quality perspective. It prevents inundation of oxidized decomposition products and motorized recreation in the draw-down zone.



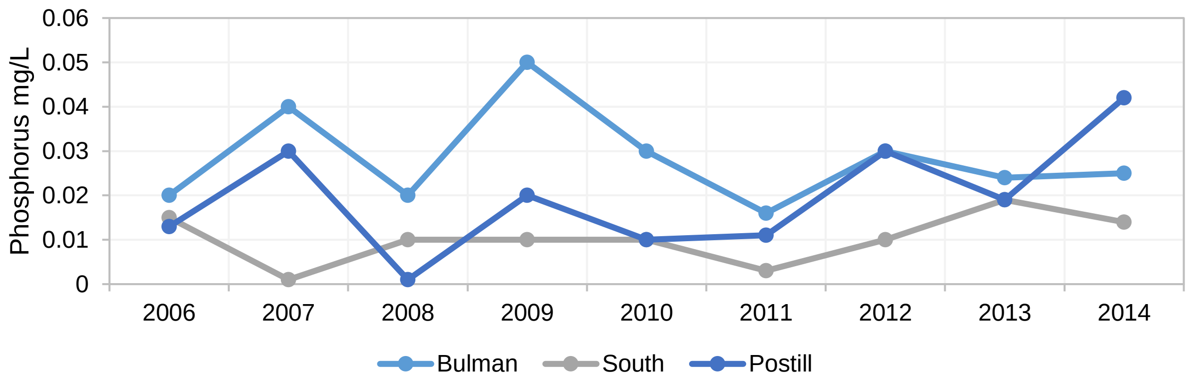
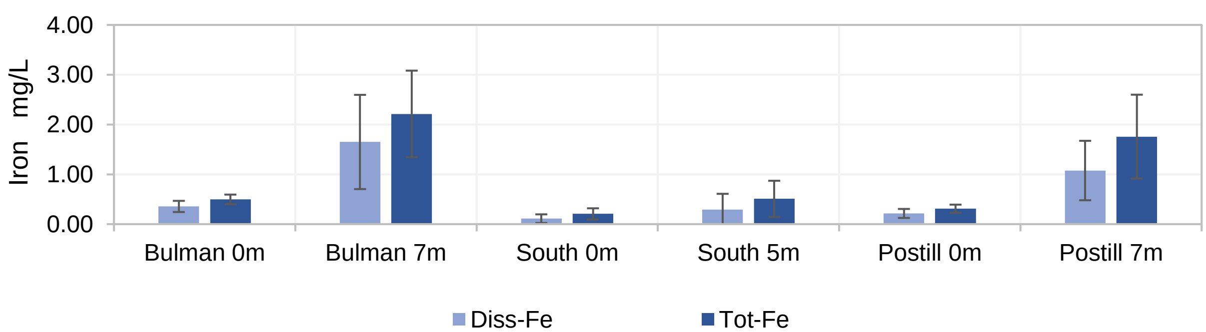


Figure 2.1.6: Surface water nutrient concentrations in GEID upper elevation reservoirs, late summer 2002-2015

NOTE: Volume of winter carry-over is influencing the data graphed above



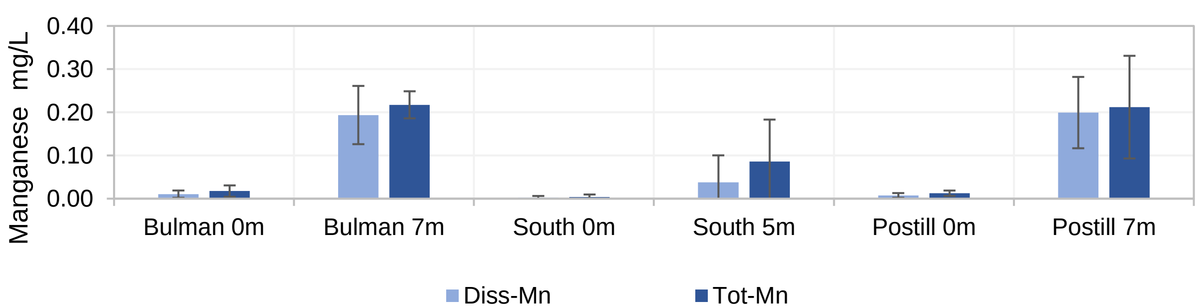


Figure 2.1.8: Average iron (2006-2015) and manganese (2004-2008) in GEID upper elevation reservoirs

South Reservoir's inorganic nutrient concentrations were low from 2002-2015 (Figure 2.1.8). Inorganic nitrogen rose from 2006-2008 but dropped to undetectable in 2009 and remained very low since. Because there is no thermocline in the outlet basin, surface water and outlet nutrient concentrations are similar. Related water quality trends between Postill and South Reservoirs over the years suggest the influence of climatic factors on both watersheds (Figures 2.1.1, 2.1.4, 2.1.6, and 2.1.13).

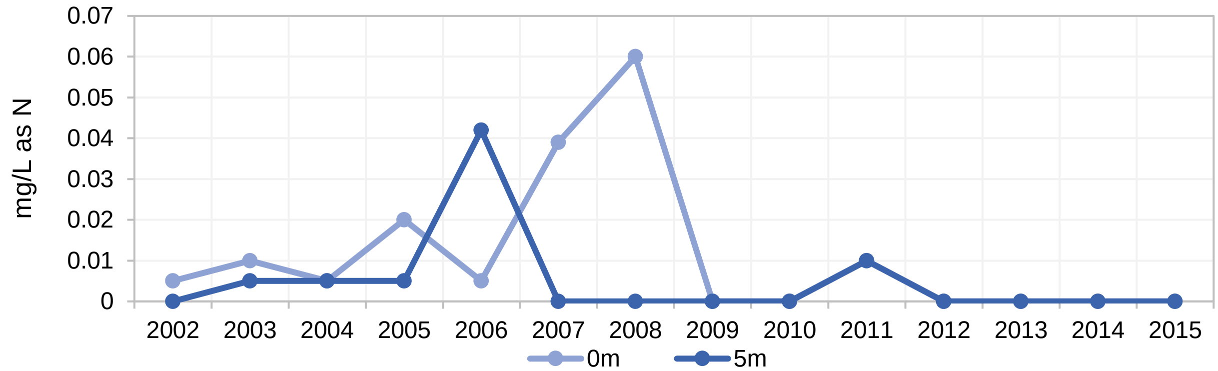


Figure 2.1.8: Inorganic nitrogen in South Reservoir, 2002-2015

South Reservoir has lower iron concentrations than Bulman or Postill, resulting in an average released water colour of 64 ± 12 TCU from 2010-2015 (ANOVA, P<0.001; Figures 2.1.1 and 2.1.7). During 2009, however, water colour averaged an unusually high 99 TCU. This increase did not occur in subsequent years and its cause remains unclear. Field turbidity in the release water averaged 0.78 ± 0.26 NTU in 2015 and increased to 2.56 ± 1.31 NTU at Site #7, below the 2004 failure on Morrison Creek (Figure 2.1.9). Morrison Creek was re-directed in 2005 but did not return to its original channel. Morrison Creek field colour averaged 114 ± 27 ACU in 2015.

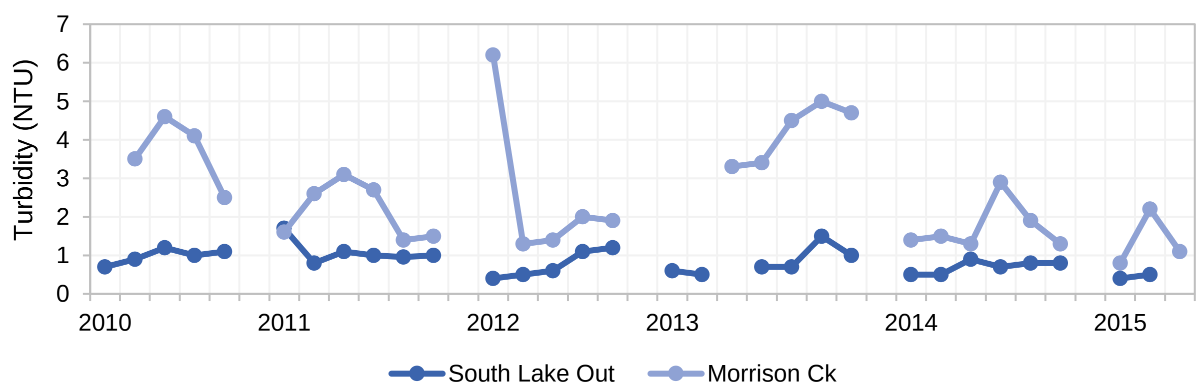


Figure 2.1.9: Turbidity in South Reservoir-Lake outflow and downstream of the 2004 Morrison Creek failure, 2010-2014

All three GEID upper elevation reservoirs were dominated by potentially toxic cyanobacteria (Appendix 3). South Reservoir had lower cyanobacteria counts than the other GEID reservoirs. It experienced an unusual diatom bloom in late summer of 2012 that has not repeated (Figure 2.1.10). Algae counts and the chlorophyll-a concentration were both moderate in 2015.

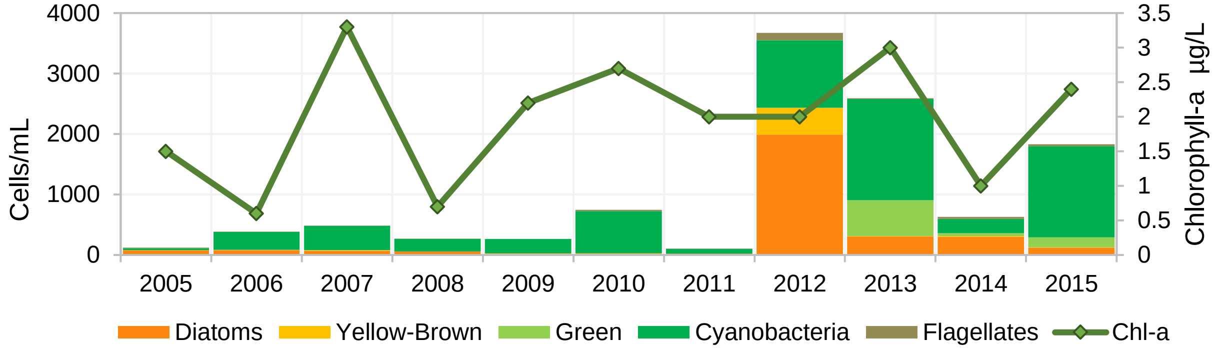


Figure 2.1.10: South Reservoir algae and chlorophyll-a concentrations, 2005-2013

Like the other upper elevation reservoirs, *E. coli* occasionally spike at South Reservoir. The proposed IHA guideline for raw water is set at 20 CFU/100 mL *E. coli* in not more than 10% of consecutive samples collected over six months. This guideline was not exceeded at South Reservoir from 2008-2015 (Figure 2.1.11).

Throughout the Mill Creek reservoir and stream system, turbidity, total coliform, and *E. coli* trend together and climb as the water travels through the watershed. Areas where cattle and erosion co-occur are particularly vulnerable. Any erosion along shorelines and transmission creeks will adversely affect water quality. In every case, erosion near the reservoir outflows or stream banks increased turbidity and colour measurements.

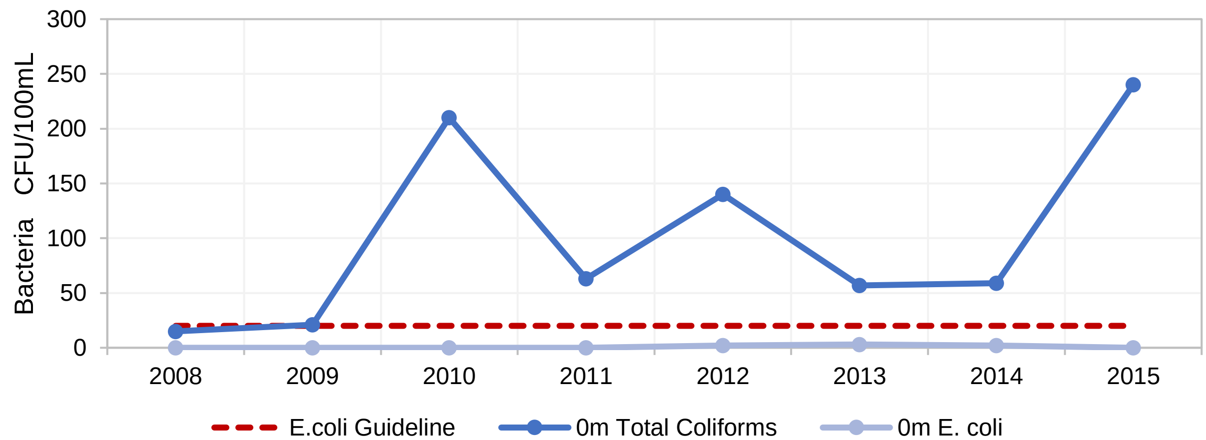
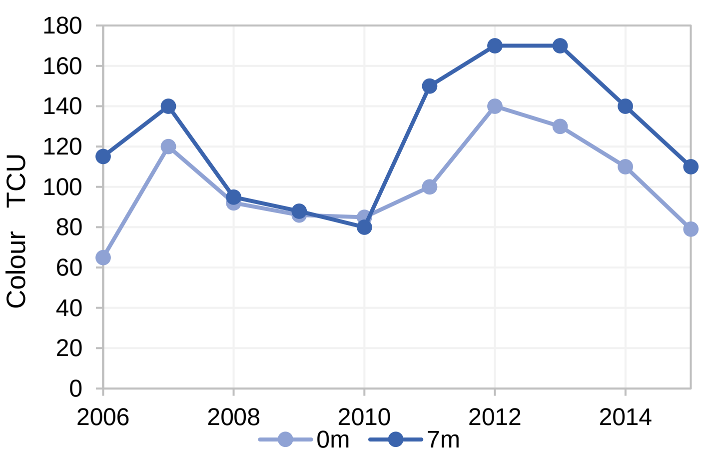


Figure 2.1.11: Bacteria counts during late summer sampling at South Lake, 2008-2015

2.1.3 Bulman Reservoir

Eutrophic (nutrient-rich) Bulman Reservoir is the most challenging of the GEID upper elevation reservoirs. The reservoir elevation is 1326 m. Bulman Reservoir's maximum depth is 9.8 m and it stores 1178 ML. The outlet pipe pulls off bottom water. This small reservoir drains a swampy area, has abundant nutrients, extensive cattle use, and it develops an extensive anaerobic zone every summer. Bulman sediments are organic and suggest that the deep area was a pre-existing wetland prior to reservoir construction. Whenever Bulman water is used, it lowers water quality downstream. Beginning in 2014, Bulman is not used for drinking water.

Bulman Reservoir had the lowest water clarity of all GEID reservoirs and averaged a secchi depth of only 1.3 ± 0.4 m from 2009-2015. Bulman Reservoir turbidity and water colour are always very high, ranging from 1.3 – 19 NTU and 65-170 TCU respectively (Figure 2.1.12). Turbidity was 1.8 NTU and colour was 79 TCU at the surface on September 9 2015. Turbidity peaks in Figure 2.1.11 probably relate to anaerobic development or to sediment disturbance. Bulman's high turbidity, water colour, and cyanobacteria bloom reduced the secchi reading to <2.0 m in most years. Secchi measured 2.0 m in 2015, the highest recorded to date (Figure 2.2.13). Bulman's water level was held high through 2014 and 2015 because it was not used to supply drinking water. The result was lower colour and turbidity, higher secchi depth, and lower algae counts than recent years (Figures 2.1.12 - 2.1.14). If this trend continues, holding the reservoir high through the summer may benefit long-term water quality in Bulman Reservoir.



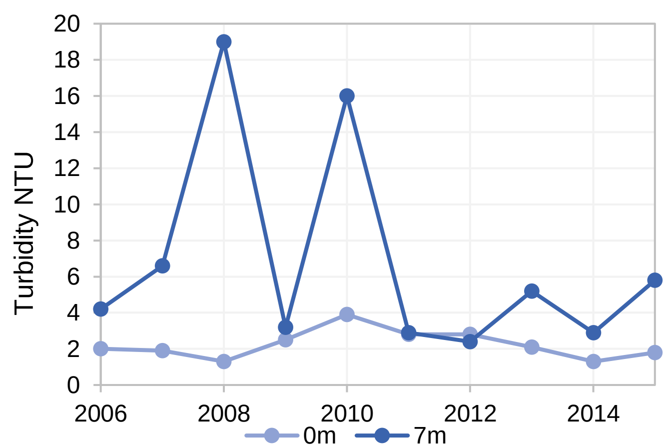


Figure 2.1.12: Colour and turbidity in Bulman Reservoir at 0m and 7m, 2006-2015

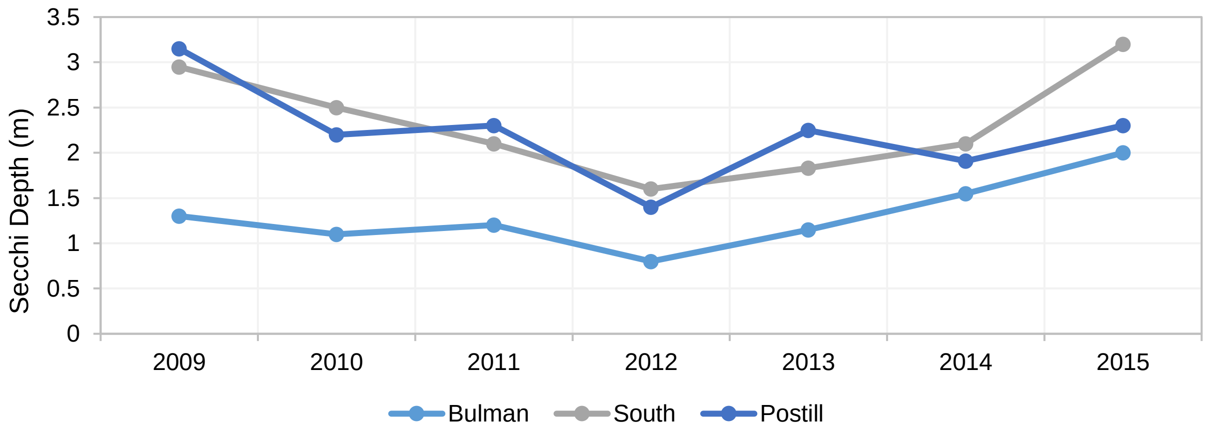


Figure 2.1.13: Secchi depths in GEID's upper elevation reservoirs, 2009-2015

Bulman's secchi depth varied in a similar trend to the other upper storage reservoirs (Figure 2.1.13). Common trends indicate change induced by climatic conditions and water management decisions. Bulman's outlet releases anaerobic water throughout the summer. Abundant phosphorus (0.02 – 0.16 mg/L D-P) relative to inorganic nitrogen (<0.01 – 0.12 mg/L DIN) push Bulman towards cyanobacteria because they overcome the strong nitrogen limitation by fixing nitrogen out of the air. Ammonia was present in samples taken from 2009-2011 in the surface (0.043 mg/L) and bottom waters (0.13 mg/L) as a result of Bulman's anaerobic zone.

Bulman Reservoir algae was dominated by a bloom of the potentially toxic cyanobacteria *Anabaena, Anacystis,* and *Aphanizomenon* in most years. Although Bulman usually has cyanobacteria blooms, the one in August 2009 was particularly severe. Copper sulphate was applied in early September and was partially effective. This bloom did not re-develop in McKinley Reservoir. $CuSO_4$ was not applied to Bulman Reservoir from 2010-2015 and there are no plans for its use going forward. Iron-related bacteria (IRB) are prevalent in the water column to the point of fouling an 80 micron mesh plankton net. Algae counts were down again in 2015 from the high in 2012. The composition of the algae samples suggest that the amount of cyanobacteria was lower than usual in 2015 as well (Figure 2.1.14). The spike in chlorophyll-a in 2015 did not match the decline in algae counts and the cause was not clear.

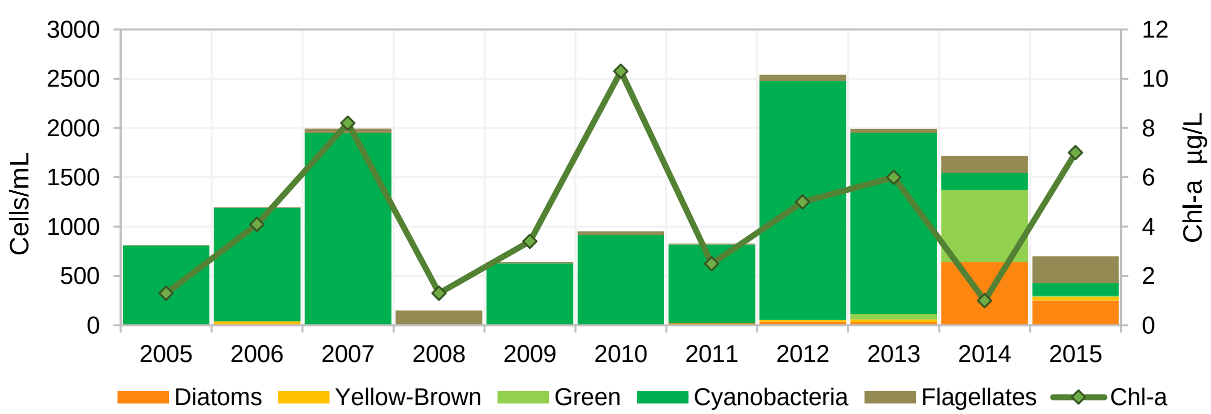


Figure 2.1.14: Bulman Reservoir algae and chlorophyll-a concentrations, 2005-2015

Total organic carbon was very high (21.0 ± 8.4 mg/L from 2006-2015) in Bulman Reservoir, due in part to the large cyanobacteria blooms. Bulman's very high colour (101 ± 24 TCU from 2006-2015) was caused predominantly by algae (R=0.96; 2009-2015).

Of GEID's three upper elevation reservoirs, Bulman has the highest nutrient concentrations and therefore the greatest risk of potentially toxic cyanobacteria blooms (Appendix 3). Bulman Reservoir is also impacted by watershed damage. Cattle congregate in the wetland/meadow pasture above Bulman. Large areas of shoreline are trampled and cow pies are common. ATV's do not respect the signage and travel through the exposed mud, increasing nutrient donations from the disturbed sediments when they are re-flooded (Figure 2.1.15). Maintaining the reservoir near full pool throughout the summer reduces the area available for ATV activities. Managing activity Bulman's watershed will continue to be important even though Bulman isn't used for drinking water because Bulman water will still reach Mill Creek during freshet and during winter drawdown.

Figure 2.1.15: Heavily disturbed area in Bulman Reservoir drawdown zone during 2012 (top) and the same area flooded in 2015 (bottom)

2.1.4 Mill Creek

Mill Creek samples were collected regularly through the growing season by GEID staff. As water travels from the upper elevation reservoirs into Kelowna (Mill) Creek, water quality changes. Water colour and turbidity trend together as the water travels downstream. There is a reduction in water quality between Conroy Creek confluence and the GEID intake – a consequence of disturbance in the lower watershed (ANOVA, $P<0.008$ for 2010-2015 turbidity; Figure 2.1.16). Turbidity and colour were both below average throughout Mill Creek during 2015 (Figure 2.1.16). This was caused by the low flow during 2015.

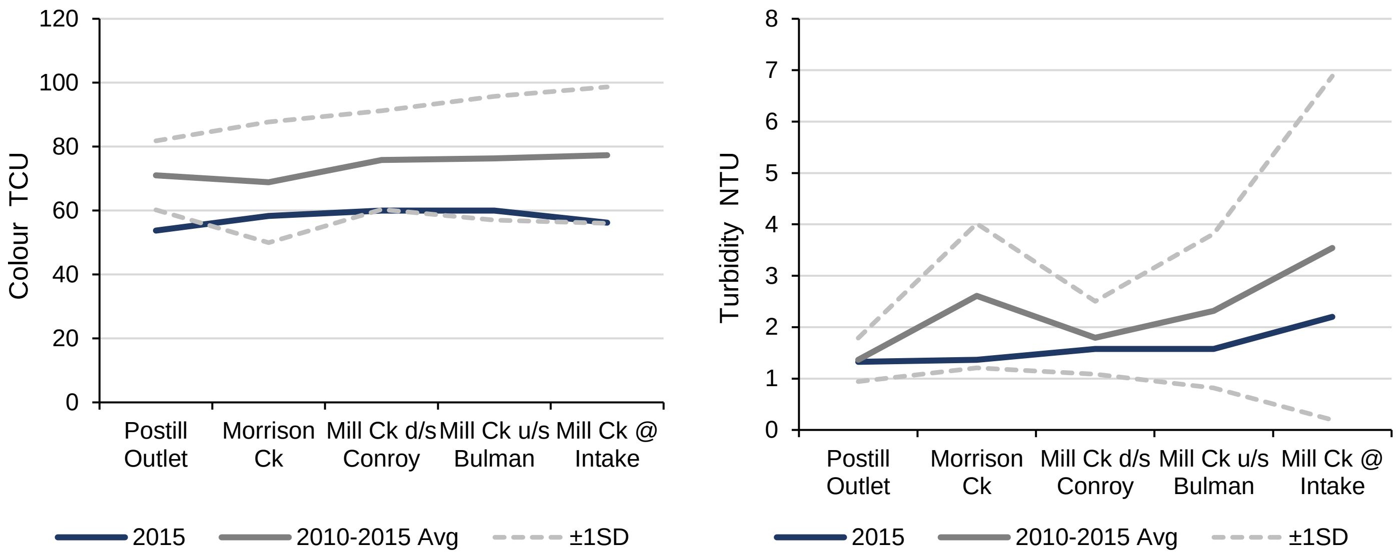


Figure 2.1.16: Water colour and turbidity in the Mill Creek system, 2010-2015

Three locations on Mill Creek are presented in Figure 2.1.16 over many dates in 2010-2015. This data set also identifies water quality degradation between Conroy Creek confluence and the GEID intake.

Mill Creek turbidity and colour were much higher during 2012's large freshet. Both were high again during the large 2013 freshet, but were low in 2014 and 2015 with smaller freshets. Colour is largely dissolved and more persistent than turbidity. Water colour remained significantly higher in 2013 and 2014 than 2010-2011, probably reflecting long-term impacts on the watershed from the 2012 freshet (T-Test, $p=0.004$). Colour returned to baseline at the start of 2015 because of the small freshet and then dropped to very low at all three sites on Mill Creek because of the dry summer (Figure 2.1.17).

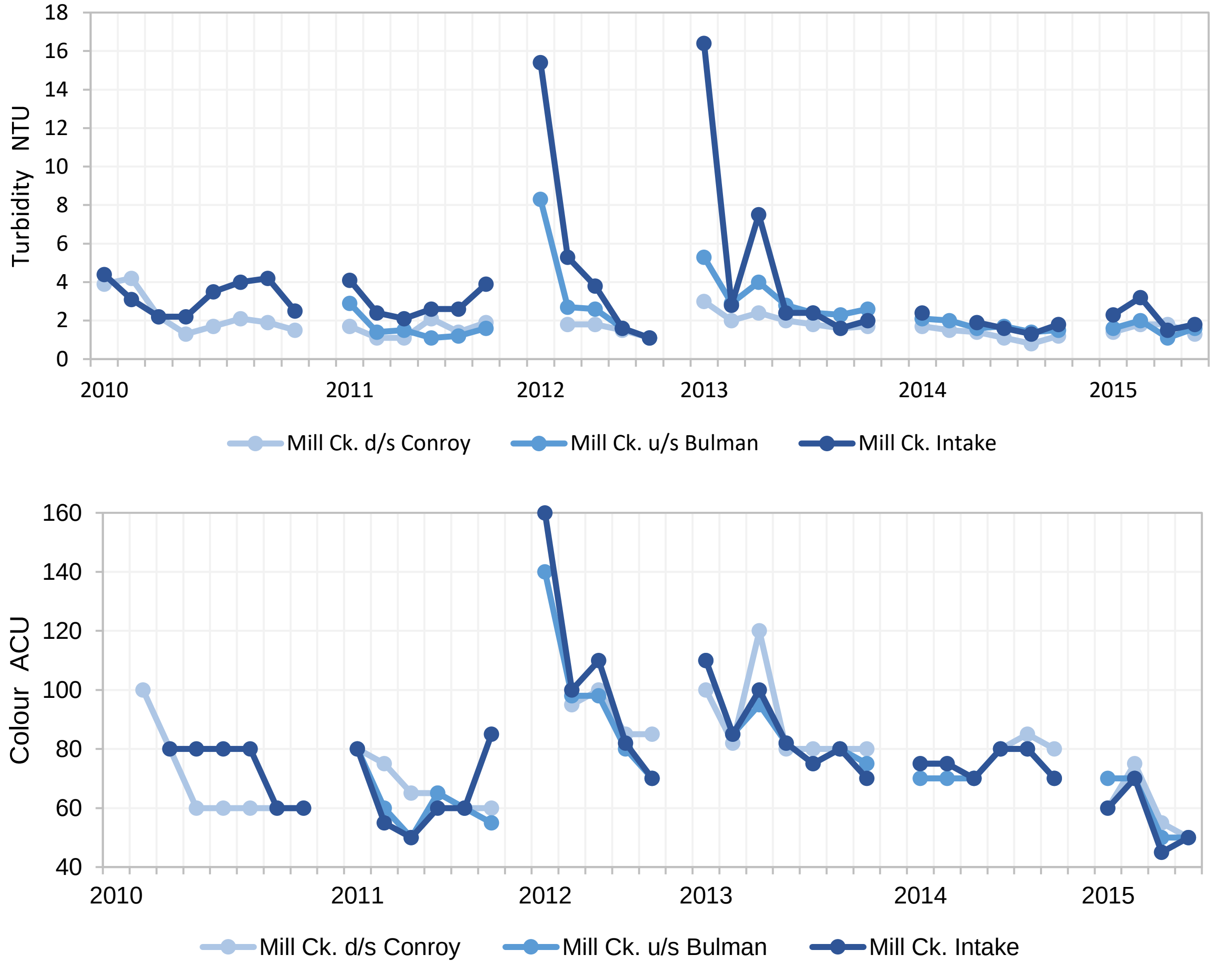


Figure 2.1.17: Mill Creek turbidity and colour, 2010-2015

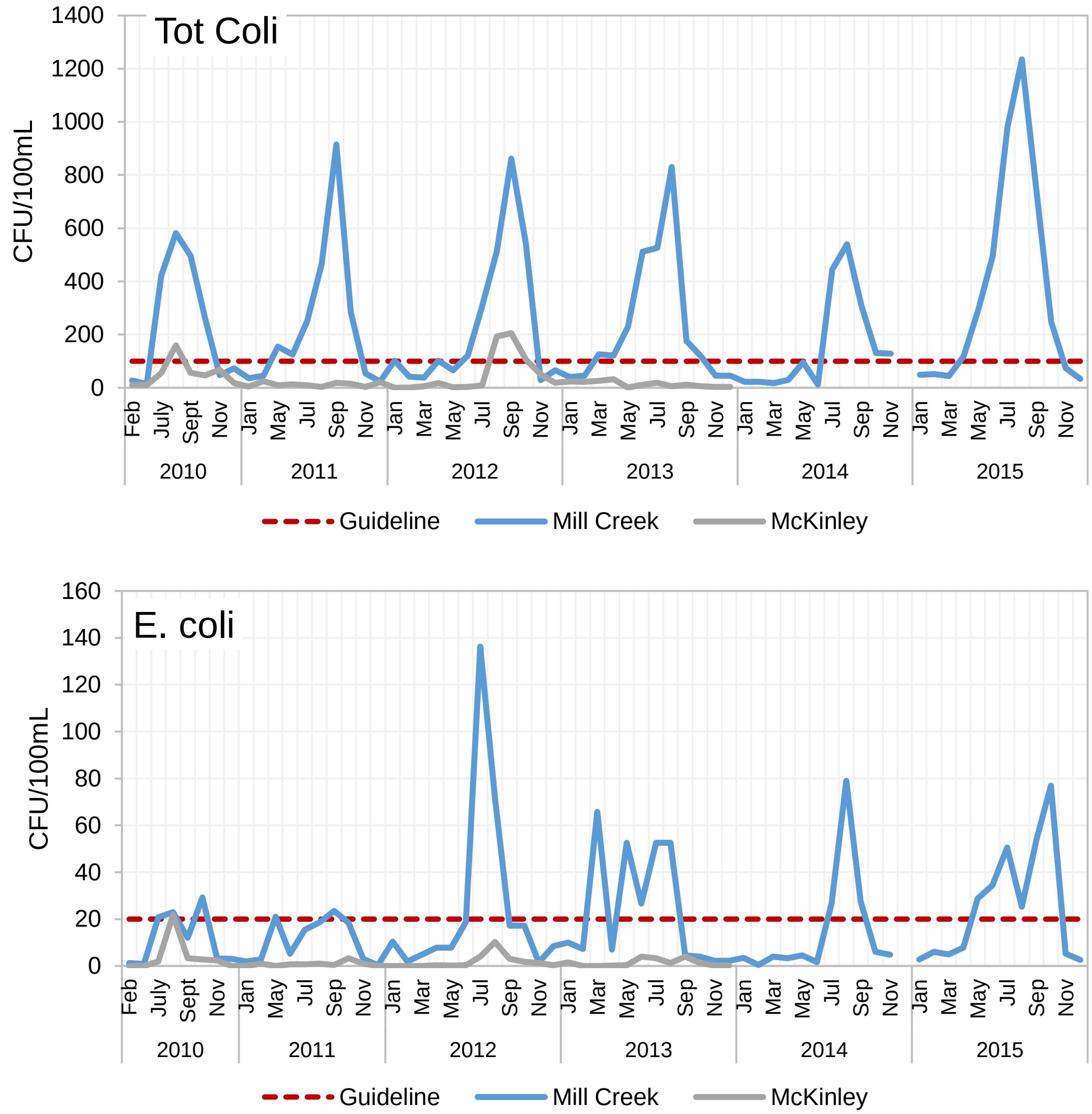


Figure 2.1.18: Average Monthly Mill Creek and McKinley Reservoir bacteria data, 2010-2015

Note: Beginning in 2014, McKinley Reservoir was no longer supplied by Mill Creek and is no longer included in this graph.

Total coliforms are soil organisms and they were frequently found in large numbers in Mill Creek water samples. These bacteria were most prevalent in Mill Creek in the summer months (July-Sept) and averaged 253 ± 356 CFU/100 mL from 2010-2015. Mill Creek *E. coli* averaged from <1 CFU/100 mL before freshet, 1 ± 4 CFU/100 mL during freshet, 4 ± 8 CFU/100 mL during summer and 1 ± 2 CFU/100 mL in the fall of 2010 to 2015. Mill Creek always exceeds the IHA total coliforms guideline (no more than 10% of samples >100 CFU/100mL) during the summer. Mill Creek also usually exceeds the *E. coli* guideline (no more than 10% of samples >20 CFU/100mL) each summer as well.

2.2 Ellison Distribution System

Water samples from the Ellison system are collected regularly by GEID staff. Ellison receives water principally from GEID's wells, Airport Well #1 and Ellison Well. Demand for water is lowest during winter and Ellison can be supplied by Airport Well #1 alone. During this time Ellison Well is shut off. As demand increases in the spring and summer both wells run at maximum capacity and are supplemented by water from Mill Creek only as needed.

Table 2.2: Average water quality parameters for Ellison system, 2010-2015

	pH	Turbidity	UV Transmissivity	Alkalinity	Nitrate	Iron
Airport Well #1	7.79	0.3	94	184	2.12	0.12
Ellison Well	8.05	1.4	94.6	261	0.084	0.47
Postill Rd T/S	6.67	1.6	52.7	11.6	0.026	0.46

Table 2.2 summarizes the average water quality for Ellison from its two sources. Airport Well #1 and Ellison Well supply groundwater while Postill Rd T/S represents water from Mill Creek. The well water has high alkalinity and high pH compared the creek water. Water from Airport Well #1 was moderate in iron while Ellison well and the creek both contained high concentrations of iron. High iron concentrations feed iron reducing bacteria (IRB) in the distribution system. During periods of high flow these bacteria will break off the inside of the pipes and colour the water brown. Airport Well #1 contains very high nitrate concentrations. This is from fertilizer contaminating the aquifer after decades of intense agriculture in the Ellison area. High nitrate well water was particularly problematic when it was pumped into McKinley Reservoir but it should be a less significant issue in Ellison because the water is not stored in an open reservoir.

Creek water was softer (alkalinity of only 11.6 mg/L) but was more turbid and contained much higher bacteria loads than well water (Figure 2.1.18). Creek water was also very high in iron because of GEID's upper elevation reservoirs.

Airport Well #1 is currently the highest quality source of water for Ellison because of its low turbidity, low iron, and moderate pH.

3.0 Recommendations

3.1 Upper Elevation Storage

- Continue to avoid releasing Bulman Reservoir water during the summer or while Ellison is receiving Mill Creek water.
- Continue to keep Bulman Reservoir water level high throughout the summer months to improve water quality.
- Traditional late summer monitoring of upper elevation reservoirs by LAC should be continued as long as upper storage reservoirs are used for drinking water. Continued sampling with the new reservoir management scheme will prove if the improved water quality is due to preventing reservoir draw-down (despite less reservoir flushing).

3.2 Ellison System

- Continue to supply Ellison from Airport Well #1 exclusively as often as possible.
- Continue to avoid using Mill Creek water until absolutely necessary.

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Appendices

Appendix 1: Methods

Samples were collected at the deepest point in each reservoir (base on GPS coordinates).

Algae samples were taken from the surface and an 80 micron mesh plankton net was used to concentrate algae and zooplankton from the surface waters. Water quality samples were collected in acid-washed bottles and analyzed at Caro Labs, Kelowna, according to Standard Methods.

Algae samples were identified using 200x magnification on a light microscope. The samples were refrigerated and allowed to settle for 24 hours. One mL was removed from the bottom of each sample and put in a Sedwich-Rafter counting cell. Algae density, diversity and condition were recorded. Notes on the presence of zooplankton, bacteria and fungi were made.

A Hanna Instrument (Hanna Model 9828) field meter was used for dissolved oxygen and temperature profiles. Readings were taken at one meter intervals throughout the water column.

Water transparency was measured with a standard 20 cm secchi disk.

Appendix 2 Water Chemistry for Upper Elevation Reservoirs 2002 – 2015

GEID Upper Elevation Reservoirs WQ 2002-2014			General Criteria							Nutrients												Metals				Biological				
			pH	Colour, True	Turbidity	UV Transmittance @ 254nm	Alkalinity, Total as CaCO3	Solids, Total Dissolved	Carbon, Total Organic	Nitrogen, Ammonia as N	Nitrogen, Nitrate+Nitrite as N	Nitrogen, Nitrate as N	Nitrogen, Nitrite as N	Nitrogen, Total Kjeldahl	Nitrogen, Dissolved Kjeldahl, dissolved	Nitrogen, Total	Nitrogen, Total Dissolved	Nitrogen, Organic	Phosphorus, Total	Phosphorus, Dissolved	Orthophosphate	Iron, dissolved	Iron	Manganese, Diss.	Total Manganese	Chlorophyll-a	Coliforms, Total	Background Colonies	Coliforms, Fecal	E. coli
RDL			0.01	5	0.1	0.1	1	5	0.5	0.01	0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.05	0.002	0.002	0.002	0.1	0.1	0.002	0.002	0.1	1	200	1	1
Units				TCU	NTU	%		mg/L								mg/L								mg/L		ug/L	CFU/100mL			
2002	09/01/02	Bulman 0m									<0.01			0.46							0.023									
	09/01/02	Bulman 7m																												
	09/01/02	South 0m									<0.01			0.28							<0.005									
	09/01/02	South 7m																												
	09/01/02	Postill 0m									<0.01			0.29							0.006									
	09/01/02	Postill 7m									<0.01			0.29							0.021									
2003	09/01/03	Bulman 0m									0.065			0.96							0.03									
	09/01/03	Bulman 7m									0.06			0.9							0.028									
	09/01/03	South 0m									0.01			0.28							0.006									
	09/01/03	South 7m									0.005			0.38							0.005									
	09/01/03	Postill 0m									0.005			0.26							<0.005									
	09/01/03	Postill 7m									0.01			0.34							<0.005									
2004	09/01/04	Bulman 0m									<0.005			0.74							<0.005				<0.01					
	09/01/04	Bulman 7m									0.005			1.08							0.12				0.22					
	09/01/04	South 0m									<0.005			0.4							<0.005				<0.01					
	09/01/04	South 7m									<0.005			0.46							<0.005				0.24					
	09/01/04	Postill 0m									0.01			0.3							<0.005				<0.01					
	09/01/04	Postill 7m									<0.005			0.6							0.065				0.027					
2005	09/01/05	Bulman 0m									0.01			0.5							<0.005				0.01	1.3				
	09/01/05	Bulman 7m									0.01			0.9							0.13				0.18					
	09/01/05	South 0m									0.02			0.28							<0.005				<0.01	1.5				
	09/01/05	South 7m									0.005			0.42							<0.005				<0.01					
	09/01/05	Postill 0m									<0.005			0.22							<0.005				0.01	2.2				
	09/01/05	Postill 7m									0.01			0.3							0.014				0.19					
2006	09/01/06	Bulman 0m	6.7	65	2.0		22		18.7		0.025			0.58					0.020		0.003	0.36	0.40	0.02	0.02	4.1				
	09/01/06	Bulman 7m	6.1	115	4.2		27		18.6		0.023			0.84					0.143		0.138	2.77	3.02	0.22	0.23	N/A				
	09/01/06	South 0m	7.0	56	2.1		24		12.1		<0.005			0.44					0.015		0.005	0.14	0.17	<0.01	<0.01	0.6				
	09/01/06	South 5.2m	6.2	66	3.2		22		12.2		0.042			0.36					0.045		0.032	0.38	0.59	0.11	0.12	N/A				
	09/01/06	Postill 0m	6.4	66	1.8		14		11.7		<0.005			0.40					0.013		0.015	0.17	0.25	0.01	0.01	1.6				
	09/01/06	Postill 5.5m	5.9	85	7.3		15		12.8		<0.005			0.48					0.060		0.039	1.57	2.16	0.25	0.27	N/A				
2007	09/01/07	Bulman (far end)	6.4	110	1.8		21		21.7			<0.01	<0.01	0.69					0.02		<0.01	0.359	0.59	0.0248	0.047					
	09/01/07	Bulman 0m	6.8	120	1.9		22		22.1			<0.01	<0.01	0.77					0.04		0.032	0.336	0.54	0.0039	0.039	8.2				
	09/01/07	Bulman 7m	5.7	140	6.6		22		23.1			<0.01	<0.01	0.67					0.05		0.012	0.324	2.3	0.117	0.196					
	09/01/07	South 0m	6.7	40	0.8		22		14.2			0.039	<0.01	0.45					<0.01		<0.01	0.058	0.15	<0.0025	0.007	3.3				
	09/01/07	South 5.2m	6.3	39	5.1		21		14.1			<0.01	<0.01	0.69					0.04		<0.01	0.09	0.38	0.003	0.05					
	09/01/07	Postill 0m	6	42	1.3		10		14.2			<0.01	<0.01	0.48					0.03		<0.01	0.085	0.36	<0.0025	0.018	4.8				
	09/01/07	Postill 5.5m	5.9	130	5.5		18		17			<0.01	<0.01	0.8					0.1		0.026	0.791	3.65	0.104	0.347					

GEID Upper Elevation Reservoirs WQ 2002-2014			General Criteria							Nutrients												Metals				Biological				
			pH	Colour, True	Turbidity	UV Transmittance @ 254nm	Alkalinity, Total as CaCO3	Solids, Total Dissolved	Carbon, Total Organic	Nitrogen, Ammonia as N	Nitrogen, Nitrate+Nitrite as N	Nitrogen, Nitrate as N	Nitrogen, Nitrite as N	Nitrogen, Total Kjeldahl	Nitrogen, Dissolved Kjeldahl, dissolved	Nitrogen, Total	Nitrogen, Total Dissolved	Nitrogen, Organic	Phosphorus, Total	Phosphorus, Dissolved	Orthophosphate	Iron, dissolved	Iron	Manganese, Diss.	Total Manganese	Chlorophyll-a	Coliforms, Total	Background Colonies	Coliforms, Fecal	E. coli
RDL			0.01	5	0.1	0.1	1	5	0.5	0.01	0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.05	0.002	0.002	0.002	0.1	0.1	0.002	0.002	0.1	1	200	1	1
Units				TCU	NTU	%		mg/L							mg/L								mg/L			ug/L		CFU/100mL		
2008	09/01/08	Bulman 0m	6.8	92	1.3		21.1		17.2			<0.01	<0.01	0.61					0.02		0.013	0.322	0.45	0.0076	0.0139	1.3	21			<1
	09/01/08	Bulman 7m	5.9	95	19		23.6		20			<0.01	<0.01	0.65					0.07		<0.01	1.39	2.69	0.244	0.261		9			<1
	09/01/08	South 0m	6.6	41	1		22.1		11.2			0.06	<0.01	0.38					0.01		<0.01	<0.2	<0.2	0.0069	0.0126	0.7	15			<1
	09/01/08	South 5.2m	6.6	44	1		22.6		11.9			<0.01	<0.01	0.36					<0.01		<0.01	<0.2	0.21	<0.0050	0.0135		21			<1
	09/01/08	Postill 0m	6.4	47	1		13		11.6			<0.01	<0.01	0.32					<0.01		<0.01	0.234	0.32	0.0112	0.02	1.1	69			<1
	09/01/08	Postill 9m	5.7	68	8.8		14		12.4			<0.01	<0.01	0.36					<0.01		<0.01	1.39	1.9	0.244	0.226		21			<1
2009	08/31/09	Bulman 0.5m	7.36	86	2.5	27.2	25.4	79	20.3	0.09	0.03	0.03	<0.01	0.85	0.73	0.88	0.75	0.77	0.05	0.03		0.458	0.61			3.4	DGT300	DGT200	<1	<1
	08/31/09	Bulman 4m	7.08	88	3.2	27.3	25.3	82	21.3	0.09	<0.01	<0.01	<0.01	0.68	0.68	0.68	0.68	0.59	0.05	0.04		0.475	0.7				35	DGT200	<1	<1
	08/31/09	South 0.5m	7.57	41	0.7	49.4	25.4	65	13.4	<0.02	<0.02	<0.01	<0.01	0.41	0.41	0.41	0.41	0.41	0.01	0.01		<0.100	0.12			2.2	21		<1	<1
	08/31/09	South 2m	7.48	43	1.1	48.9	25.5	53	11.7	<0.02	<0.01	<0.01	<0.01	0.44	0.42	0.44	0.42	0.44	0.02	0.01		<0.100	0.12				49	DGT200	<1	<1
	08/31/09	Postill 0.5m	7.3	44	0.9	47.3	13.6	46	12.2	<0.02	<0.02	0.01	<0.01	0.36	0.31	0.37	0.33	0.36	0.02	0.01		0.135	0.19			1.9	78	DGT200	<1	<1
	08/31/09	Postill 5m	6.8	92	10	33	16.3	65	13.2	0.05	<0.01	<0.01	<0.01	0.55	0.38	0.55	0.38	0.5	0.07	0.04		2.14	2.19				10	DGT200	<1	<1
2010	09/02/10	Bulman 0.5m	7.4	85	3.9	22.1	25.4	52	38.6	<0.02	<0.01	<0.01	<0.01	0.9		0.9			0.03	0.02		0.269	0.46			10.3	89	> 200	<1	<1
	09/02/10	Bulman 7m	6.97	80	16	20	28.9	50	39.4	0.25	<0.01	<0.01	<0.01	0.97		0.97			0.1	0.04		1.84	2.27				20	> 200	<1	<1
	09/02/10	South 0.5m	7.43	41	0.9	44.5	24.4	37	22.7	<0.02	<0.01	<0.01	<0.01	0.49		0.49			0.01	<0.01		<0.100	0.14			2.7	210	> 200	<1	<1
	09/02/10	South 5m	7.42	42	1	43.5	25.9	40	23.1	<0.02	<0.01	<0.01	<0.01	0.57		0.57			0.02	<0.01		<0.100	0.13				280	> 200	1	1
	09/02/10	Postil 0.5 m	7.2	49	1.7	40.7	14	37	23.5	<0.02	<0.01	<0.01	<0.01	0.41		0.41			0.01	0.01		0.182	0.24			2.2	69	> 200	<1	<1
	09/02/10	Postil 6-7m	6.83	60	4.6	34.8	14.8	46	26.8	0.05	<0.01	<0.01	<0.01	0.56		0.56			0.05	0.02		1.7	1.72				39	> 200	<1	<1
2011	09/02/11	Bulman 0.5m	7.22	100	2.8	19.1	22.6	62	15.8	0.03	<0.010	<0.010	<0.01	0.88	0.77	0.88	0.774		0.016	0.011		0.1	0.46			2.5	Ovrgrn wth		2	2
	09/02/11	Bulman 7m	6.9	150	2.9	12.9	25.2	78	16.4	0.05	<0.010	<0.010	<0.01	0.92	0.75	0.918	0.746		0.202	0.157		2.2	2.68				15	> 200	<1	<1
	09/02/11	South 0.5m	7.32	60	0.9	37.2	23.2	29	10	0.01	<0.010	<0.010	<0.01	0.52	0.6	0.515	0.601		0.003	<0.002		0.19	0.48			2	63		<1	<1
	09/02/11	South 5m	6.97	55	3	37.8	26.1	7	9.9	<0.01	<0.010	<0.010	<0.01	0.51	0.49	0.506	0.494		0.024	0.003		0.43	1.11				DGT10	> 200	2	2
	09/02/11	Postil 0.5m	7.12	55	1	35.6	12.5	36	9.8	<0.01	<0.010	<0.010	<0.01	0.49	0.46	0.491	0.461		0.011	0.01		0.17	0.25			2.1	23		2	2
	09/02/11	Postil 6-7m	6.74	75	4.1	32.1	13.5	67	10.8	0.04	0.065	0.065	<0.01	0.53	0.5	0.591	0.57		0.038	0.015		0.56	1.46				2		<1	<1
2012	09/06/12	Bulman 0.5m	7.09	140	2.8	14.6	24	85	31.4		<0.020	0.016	<0.010	0.68	0.58	0.7	0.591		0.03	0.021		0.5	0.7			5	39		4	2
	09/06/12	Bulman 7m	6.99	170	2.4	12.1	22	87	33.2		<0.020	<0.010	<0.010	0.56	0.52	0.561	0.518		0.05	0.046		0.9	1.1				10		<1	<1
	09/06/12	South 0.5m	7.19	78	1.3	32	23	65	19.9		<0.020	<0.010	<0.010	0.38	0.36	0.375	0.357		0.01	0.006		0.2	0.3			2	140		2	2
	09/06/12	South 5m	7.08	83	3.5	32.4	24	70	19.8		<0.020	<0.010	<0.010	0.36	0.29	0.362	0.292		0.04	0.02		1	1				58		1	1
	09/06/12	Postil 0.5m	6.99	80	2.4	31.1	13	66	19.9		<0.020	<0.010	<0.010	0.38	0.28	0.383	0.275		0.03	0.013		0.4	0.4			3	120		<1	<1
	09/06/12	Postil 6-7m	6.89	94	3.7	29.3	14	62	20.2		0.034	0.034	<0.010	0.34	0.22	0.377	0.251		0.05	0.025		0.9	1.4				19		<1	<1
2013	09/10/13	Bulman 0.5m	7.44	130	2.1	19.3	26	94	22		<0.010	<0.010	<0.010	0.79	0.7	0.788	0.698		0.024	0.015		0.4	0.4			6	85	> 200	3	3
	09/10/13	Bulman 7m	6.77	170	5.2	13.2	24	89	21.1		<0.010	<0.010	<0.010	0.98	0.79	0.976	0.788		0.128	0.099		2.1	2.3				DGT10	> 200	<1	<1
	09/10/13	South 0.5m	7.35	65	1.3	38	24	40	12.8		<0.010	<0.010	<0.010	0.54	0.44	0.543	0.437		0.019	0.01		0.2	0.2			3	57	> 200	4	3
	09/10/13	South 5m	6.97	80	2	37	24	75	12.9		<0.010	<0.010	<0.010	0.53	0.42	0.528	0.423		0.036	0.018		0.5	0.7				40	> 200	1	1
	09/10/13	Postil 0.5m	7.14	70	1.3	35.9	13	49	12.6		<0.010	<0.010	<0.010	0.38	0.35	0.381	0.347		0.019	0.012		0.2	0.3			2	190	> 200	<1	<1
	09/10/13	Postil 6-7m	6.64	88	5.1	32.2	13	65	13.4		<0.010	<0.010	<0.010	0.45	0.38	0.448	0.385		0.049	0.018		0.9	1.6				35	> 200	<1	<1
2014	09/10/14	Bulman 0.5m	7.19	110	1.3	22.8	24	94	13.2		<0.01	<0.01	<0.01	0.61	0.52	0.606	0.518		0.025	0.018		0.42	0.44			1	35	> 200	<1	<1
	09/10/14	Bulman 7m	6.77	140	2.9	17	24	89	15		<0.01	<0.01	<0.01	0.69	0.58	0.69	0.576		0.077	0.053		1.31	1.54				14	> 200	<1	<1
	09/10/14	South 0.5m	7.19	54	1	42.5	24	69	9.4		<0.010	<0.010	<0.010	0.43	0.31	0.43	0.313		0.014	0.007		0.18	0.22			1	59	> 200	2	2
	09/10/14	South 5m	6.86	65	1.9	40.1	26	69	8.9		<0.01	<0.01	<0.01	0.39	0.33	0.386	0.333		0.025	0.01		0.39	0.67				47	> 200	<1	<1
	09/10/14	Postil 0.5m	6.93	63	1.3	39.6	12	57	8.9		<0.01	<0.01	<0.01	0.36	0.35	0.364	0.348		0.042	0.032		0.3	0.33			1	140	> 200	<1	<1
	09/10/14	Postil 6-7m	6.61	78	3.2	36.1	13	46	10.4		0.022	0.022	<0.01	0.44	0.34	0.461	0.362		0.035	0.014		0.53	1.02				17	> 200	<1	<1

GEID Upper Elevation Reservoirs WQ 2002-2014			General Criteria							Nutrients												Metals				Biological				
			pH	Colour, True	Turbidity	UV Transmittance @ 254nm	Alkalinity, Total as CaCO3	Solids, Total Dissolved	Carbon, Total Organic	Nitrogen, Ammonia as N	Nitrogen, Nitrate+Nitrite as N	Nitrogen, Nitrate as N	Nitrogen, Nitrite as N	Nitrogen, Total Kjeldahl	Nitrogen, Dissolved Kjeldahl, dissolved	Nitrogen, Total	Nitrogen, Total Dissolved	Nitrogen, Organic	Phosphorus, Total	Phosphorus, Dissolved	Orthophosphate	Iron, dissolved	Iron	Manganese, Diss.	Total Manganese	Chlorophyll-a	Coliforms, Total	Background Colonies	Coliforms, Fecal	E. coli
RDL			0.01	5	0.1	0.1	1	5	0.5	0.01	0.01	0.01	0.01	0.05	0.05	0.05	0.05	0.05	0.002	0.002	0.002	0.1	0.1	0.002	0.002	0.1	1	200	1	1
Units				TCU	NTU	%		mg/L								mg/L							mg/L			ug/L		CFU/100mL		
2015	09/09/15	Bulman 0.5m	7.46	79	1.8	27.4	28	68	11		<0.010	<0.010	<0.010	0.55	0.45	0.546	0.451		0.02	0.015		0.39	0.51			7	16	> 200	<1	<1
	09/09/15	Bulman 7m	6.95	110	5.8	20.7	31	94	12.9		<0.010	<0.010	<0.010	0.7	0.66	0.698	0.659		0.182	0.168		3.19	3.52				1	> 200	1	1
	09/09/15	South 0.5m	7.53	40	0.8	47.7	29	66	8.2		<0.010	<0.010	<0.010	0.32	0.29	0.321	0.291		0.012	0.006		0.13	0.18			2.4	240	> 200	<1	<1
	09/09/15	South 5m	7.51	37	0.8	47.6	29	66	8.1		<0.010	<0.010	<0.010	0.43	0.28	0.432	0.283		0.013	0.006		0.13	0.17				200	> 200	1	1
	09/09/15	Postil 0.5m	7.25	52	2.2	47.5	16	63	7.8		<0.010	<0.010	<0.010	0.96	0.24	0.965	0.239		0.019	0.01		0.27	0.46			3.8	18	> 200	<1	<1
	09/09/15	Postil 6-7m	7.18	49	2.7	47.1	16	62	7.8		<0.010	<0.010	<0.010	0.28	0.26	0.281	0.259		0.018	0.01		0.28	0.48				84	> 200	<1	<1
Statistics	Bulman Lake 0m	Mean	7.15	101	2.2	21.8	24	76	21.0	0.04	0.01	<RDL	<RDL	0.71	0.63	0.76	0.63	0.77	0.028	0.019	0.015	0.3555	0.497	0.011	0.018	4.55	48		2	1
		Min	6.70	65	1.3	14.6	21	52	11.0	0.01	<RDL	<RDL	<RDL	0.46	0.45	0.55	0.45	0.77	0.016	0.011	<RDL	0.1	0.4	<RDL	<RDL	1	16		<RDL	<RDL
		Max	7.46	140	3.9	27.4	28	94	38.6	0.09	0.07	0.03	<RDL	0.96	0.77	0.90	0.77	0.77	0.050	0.030	0.032	0.5	0.7	0.020	0.039	10.3	89		4	3
		StDev	0.29	24	0.8	4.6	2	16	8.4	0.04	0.02	<RDL	<RDL	0.16	0.13	0.14	0.13	-	0.011	0.006	0.013	0.1121	<RDL	0.008	0.013	3.07	32		2	1
		StErr	0.20	24	0.8	5.0	2	16	8.7	0.04	0.02	<RDL	<RDL	0.16	0.08	0.07	0.08	-	0.011	0.005	0.014	0.1165	0.102	0.008	0.013	3.19	35		2	1
		MoErr	0.09	7	0.2	1.7	1	6	2.6	0.02	0.01	-	-	0.04	0.05	0.05	0.05	-	0.003	0.002	0.005	0.0347		0.005	0.006	0.91	13		1	0
	Bulman Lake 7m	Mean	6.61	126	6.8	17.6	25	81	22.1	0.13	<RDL	<RDL	<RDL	0.81	0.66	0.78	0.66	0.59	0.105	0.086	0.072	1.6499	2.212	0.194	0.217		15		<RDL	<RDL
		Min	5.70	80	2.4	12.1	22	50	12.9	0.05	<RDL	<RDL	<RDL	0.56	0.52	0.56	0.52	0.59	0.050	0.040	<RDL	0.324	0.7	0.117	0.180		1		<RDL	<RDL
		Max	7.08	170	19.0	27.3	31	94	39.4	0.25	0.06	<RDL	<RDL	1.08	0.79	0.98	0.79	0.59	0.202	0.168	0.138	3.19	3.52	0.244	0.261		35		1	1
		StDev	0.51	33	5.8	5.5	3	15	8.2	0.11	0.02	<RDL	<RDL	0.16	0.10	0.17	0.10	-	0.056	0.056	0.063	0.9459	0.87	0.067	0.031		11		<RDL	<RDL
		StErr	0.39	33	5.9	5.6	3	12	8.6	0.15	0.01	<RDL	<RDL	0.15	0.11	0.18	0.11	-	0.057	0.054	0.066	0.9545	0.922	0.094	0.031		10		<RDL	<RDL
		MoErr	0.16	10	1.8	2.0	1	5	2.5	0.06	-	-	-	0.04	0.04	0.06	0.04	-	0.017	0.021	0.025	0.2931	0.269	0.038	0.014		4		-	-
	South Lake 0m	Mean	7.19	52	1.1	41.6	24	53	13.4	<RDL	<RDL	0.01	<RDL	0.40	0.40	0.44	0.40	0.41	0.011	0.007	<RDL	0.1248	0.206	0.004	<RDL	1.95	101		1	1
		Min	6.60	40	0.7	32.0	22	29	8.2	<RDL	<RDL	<RDL	<RDL	0.28	0.29	0.32	0.29	0.41	<RDL	<RDL	<RDL	<RDL	0.1	<RDL	<RDL	0.6	15		<RDL	<RDL
		Max	7.57	78	2.1	49.4	29	69	22.7	<RDL	0.02	0.06	<RDL	0.54	0.60	0.54	0.60	0.41	0.019	0.010	0.006	0.2	0.48	0.007	0.013	3.3	240		4	3
		StDev	0.33	13	0.4	6.2	2	17	4.6	<RDL	<RDL	0.02	<RDL	0.09	0.11	0.08	0.11	-	0.005	0.002	<RDL	<RDL	0.112	0.004	<RDL	0.91	86		1	1
		StErr	0.28	13	0.4	6.8	2	17	4.8	<RDL	<RDL	0.02	<RDL	0.08	0.10	0.08	0.10	-	0.005	0.002	<RDL	<RDL	0.112	<RDL	<RDL	0.93	82		1	1
		MoErr	0.10	4	0.1	2.3	1	6	1.4	-	-	0.01	-	0.02	0.05	0.03	0.04	-	0.001	0.001	-		0.035	0.002	-	0.27	30		1	0
	South Lake 5m	Mean	6.94	55	2.3	41.0	25	54	13.3	<RDL	<RDL	<RDL	<RDL	0.45	0.37	0.46	0.37	0.44	0.027	0.010	0.008	0.307	0.508	0.039	0.086		99		1	<RDL
		Min	6.20	37	0.8	32.4	21	7	8.1	<RDL	<RDL	<RDL	<RDL	0.36	0.28	0.36	0.28	0.44	<RDL	<RDL	<RDL	<RDL	0.12	<RDL	<RDL		21		1	<RDL
		Max	7.51	83	5.1	48.9	29	75	23.1	<RDL	0.04	<RDL	<RDL	0.69	0.49	0.57	0.49	0.44	0.045	0.020	0.032	1	1.11	0.110	0.240		280		2	2
		StDev	0.47	17	1.4	6.0	2	24	4.7	<RDL	0.01	<RDL	<RDL	0.10	0.08	0.08	0.08	-	0.013	0.006	0.012	0.303	0.363	0.062	0.097		100		<RDL	<RDL
		StErr	0.38	18	1.4	6.5	2	22	4.9	<RDL	0.01	<RDL	<RDL	0.10	0.07	0.08	0.07	-	0.013	0.007	0.013	0.3049	0.376	0.043	0.084		108		<RDL	<RDL
		MoErr	0.14	5	0.4	2.2	1	9	1.5	-	-	-	-	0.03	0.03	0.03	0.03	-	0.004	0.002	0.005	0.0939	0.113	0.035	0.043		37			-
	Postill Lake 0m	Mean	6.87	57	1.5	39.7	13	51	13.2	<RDL	<RDL	<RDL	<RDL	0.40	0.33	0.48	0.33	0.36	0.020	0.014	<RDL	0.2146	0.31	0.007	0.013	2.34	88		<RDL	<RDL
		Min	6.00	42	0.9	31.1	10	36	7.8	<RDL	<RDL	<RDL	<RDL	0.22	0.24	0.36	0.24	0.36	<RDL	0.010	<RDL	0.085	0.19	<RDL	<RDL	1	18		<RDL	<RDL
		Max	7.30	80	2.4	47.5	16	66	23.5	<RDL	0.01	0.01	<RDL	0.96	0.46	0.97	0.46	0.36	0.042	0.032	0.015	0.4	0.46	0.011	0.020	4.8	190		2	2
		StDev	0.45	12	0.5	6.1	2	12	4.9	<RDL	<RDL	<RDL	<RDL	0.18	0.08	0.22	0.08	-	0.011	0.008	0.005	<RDL	<RDL	0.005	<RDL	1.14	59		<RDL	<RDL
		StErr	0.34	12	0.5	6.7	2	10	5.1	<RDL	<RDL	<RDL	<RDL	0.15	0.08	0.20	0.08	-	0.011	0.008	0.006	<RDL	<RDL	0.008	<RDL	1.2	62		<RDL	<RDL
		MoErr	0.14	4	0.2	2.3	0	4	1.5	-	-	-	-	0.05	0.03	0.08	0.03	-	0.003	0.003	-			0.003		0.34	20		-	-
	Postill Lake 7m	Mean	6.52	82	5.5	34.9	15	59	14.5	0.05	0.01	0.01	<RDL	0.45	0.35	0.47	0.37	0.50	0.048	0.020	0.025	1.0761	1.758	0.199	0.212		28		<RDL	<RDL
		Min	5.70	49	2.7	29.3	13	46	7.8	0.04	<RDL	<RDL	<RDL	0.28	0.22	0.28	0.25	0.50	<RDL	0.010	<RDL	0.28	0.48	0.104	0.027		2		<RDL	<RDL
		Max	7.18	130	10.0	47.1	18	67	26.8	0.05	0.07	0.07	<RDL	0.80	0.50	0.59	0.57	0.50	0.100	0.040	0.065	2.14	3.65	0.250	0.347		84		<RDL	<RDL
		StDev	0.50	22	2.4	5.8	2	9	5.5	<RDL	0.02	0.02	<RDL	0.15	0.10	0.11	0.12	-	0.027	0.010	0.022	0.5968	0.841	0.083	0.119		26		<RDL	<RDL
		StErr	0.33	21	1.8	5.1	2	10	5.7	<RDL	0.02	0.02	<RDL	0.15	0.10	0.07	0.12	-	0.025	0.007	0.024	0.4875	0.509	0.117	0.093		23		<RDL	<RDL
		MoErr	0.16	6.87	0.76	2.14	0.5	3.4	1.715	#####	0.00539	0.0073	-	0.039	0.04	0.041	0.046	-	0.0082	0.0037	0.0081	0.1849	0.261	0.04674	0.0521		9		-	-

Appendix 3: Algae Data - 2015

09-Sep-15		Whole			Tow		
		Postill	South	Bulman	Postill	South	Bulman
Diatoms	Asterionella	125	55	40	8%	5%	0%
	Cocconeis	0	0	0	0%	0%	0%
	Cyclotella	0	20	0	1%	0%	0%
	Cymbella	0	0	0	0%	0%	0%
	Fragilaria crotonensis	0	0	0	0%	0%	0%
	Aulacoseira	120	35	195	0%	0%	0%
		0	10	15			
	Stephanodiscus	0	0	0	0%	0%	0%
	Synedra acus	0	0	0	0%	0%	0%
	Tabellaria	5	0	0	0%	1%	0%
Yellow-Brown	Botryococcus braunii	0	0	0	0%	0%	0%
	Dinobryon	0	5	0	0%	0%	0%
	Cryptomonas	0	5	0		0%	0%
	Mallomonas	20	0	40	0%	0%	0%
Green	Chlorella	0	0	0		0%	0%
	Crucigenia tetrapedia	0	10	0		0%	0%
	Closterium	650	0	0	0%	0%	0%
	Dictyosphaerium	15	65	10		0%	0%
	Oocystis	0	85	0		0%	0%
	Sphaerocystis	125	0	0		0%	0%
	Staurastrum	0	0	0	0%	0%	0%
Cyanobacteria	Anabaena flos-aquae/ circinalis	125	0	0	8%	40%	60%
	Anacystis cyanea	25	1025	75	0%	27%	0%
	Aphanizomenon flos-aquae	3	0	30	0%	27%	40%
	Gomphosphaeria aponina	125	325	0	82%	0%	0%
	Oscillatoria sp	0	0	0	0%	0%	0%
	Chroococcus spp	10	160	0	0%	0%	0%
	Synechocystis	0	0	25	0%	0%	0%
Protozoa	Ceratium	0	0	0	0%	0%	0%
	Peridinium large	5	0	0	0%	0%	0%
	Trachelomonas	0	0	0	0%	0%	0%
	Small flagellates	25	25	110	0%	0%	0%
	Large flagellates -linear	5	5	160	0%	0%	0%
	Ciliates	0	0	0	0%	0%	0%
	Euglena	0	0	0			
	Total (Cells/mL)	1658	633	1573			
Zooplankton	Chladocera - Bosmina				0%	0%	0%
	Chladocera - Daphnia				33%	31%	25%
	Copepods				11%	2%	0%
	Kellicotia				22%	27%	75%
	Keratella				2%	0%	0%
	Vase-shaped Rotifers				33%	41%	
	Leptodora						
	Cupelopagis						