

# City of Escondido

## 2018 Consumer Confidence Report

### On Drinking Water Quality



( Lake Wohlford )

The City of Escondido Utilities Department is pleased to provide you with this year's Consumer Confidence Report. This report is to inform you about the quality of water that is delivered to you every day. **During 2018, the City of Escondido's drinking water met or exceeded all state and federal government drinking water standards.**

Over the many years that the City and the Rincon del Diablo Municipal Water District (Rincon) have served the greater Escondido community, geographic characteristics of the area have led to unique agency boundaries. With existing water exchange agreements between the two agencies, some customers of one agency may be provided water originating from the other. This report focuses on water that is treated by the City of Escondido. Those customers serviced by Rincon will receive a Consumer Confidence Report directly from that agency. If you have any questions regarding your water source, please contact the agency that regularly bills you for water service. For customers who receive their water bill from the City of Escondido, please contact Utility Billing staff at 760-839-4682.

#### Where Does My Water Come From?

The City of Escondido uses two sources for drinking water. The first source is water purchased from the San Diego County Water Authority (SDCWA). The Water Authority in turn purchases a majority of its water from the Metropolitan Water District of Southern California (MWD), which imports its water from the Colorado River Aqueduct and from Northern California via the State Water Project. Large water wholesalers such as MWD are required by the State Water Board to conduct an initial source water assessment, which is then updated every five years through a survey of source water quality called a watershed sanitary survey. Watershed sanitary surveys examine possible sources of drinking water contamination, and then recommend actions to better protect these source waters. The most recent surveys for Metropolitan's source waters are the Colorado River Watershed Sanitary Survey – 2015 Update and the State Water Project Watershed Sanitary Survey – 2016 Update. To inquire about either of these surveys, please contact the Metropolitan Water District at 800-354-4420.

The City's second drinking water source is local water, which originates from the watershed and groundwater well fields near Lake Henshaw. This water is transferred to Lake Wohlford via an open canal. The City prepared a Sanitary Survey Update of the local watershed in 2016. A copy of the Watershed Sanitary Survey Update (2016) is available for review online on the City of Escondido's website, Utilities Department home page: <https://www.escondido.org/utilities.aspx>

While the City's Watershed Sanitary Survey identifies a number of activities that have the potential to adversely affect water quality, including residential septic facilities, urban runoff, and agricultural and recreational activities, no contaminants from these activities were detected in the local water supply.

All water delivered by the City of Escondido, regardless of source, is treated at the Escondido-Vista Irrigation District (VID) Water Treatment Plant. The treatment of water includes filtration and disinfection to ensure destruction of harmful organisms. After chemical treatment and removal of organic components and suspended materials, the water is further filtered and then distributed from the Water Treatment Plant to VID and throughout Escondido via a system of pipelines and reservoirs.

#### Water Division News

With the abundant rain that our region received in the past year, local water supplies have seen a much needed boost. This additional water is a benefit to both the Water Division and its customers, as our local water is more economical than imported water purchased from the San Diego County Water Authority. This cost savings will be reinvested into necessary maintenance and capital improvement projects, and will continue to fortify our potable water system.

The tables shown in this report list all of the regulated drinking water contaminants that were detected during calendar year 2018, and unless otherwise noted, the data presented in the tables is also from testing done in calendar year 2018. The presence of contaminants in the water does not necessarily indicate that water poses a health risk. The United States Environmental Protection Agency (US EPA) and the State require that monitoring for certain contaminants occur less than once per year because the concentrations of these contaminants do not change frequently.

### **Potable Water**

Since your water comes from a natural source and has met the federal and state standards, it is considered safe or “potable” (rhymes with floatable). In accordance with state regulations, your drinking water is routinely monitored for numerous contaminants. These contaminants include inorganic contaminants, lead, copper, nitrates, volatile contaminants, synthetic organic contaminants, disinfection by-products, and microbiological contaminants.

### **Water Fluoridation**

The State of California requires that water agencies serving more than 10,000 customers fluoridate their drinking water supplies. Our water system treats your water by adding fluoride to the naturally occurring level in order to help prevent dental decay in consumers. The fluoride levels in the treated water are maintained within a range of 0.6 -1.2 ppm (with an optimum level of 0.7 ppm) as required by the California Department of Public Health. More information about fluoridation, oral health, and current issues is available from the California Water Boards at:

[www.swrcb.ca.gov/drinking\\_water/certlic/drinkingwater/Fluoridation.shtml](http://www.swrcb.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml).

### **EPA’s Safe Drinking Water Hotline**

Drinking water, including bottled water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. EPA’s Safe Drinking Water Hotline (1-800-426-4791). Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. U.S. EPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

### **State TCR (Total Coliform Rule) and Federal RTRC (Revised Total Coliform Rule)**

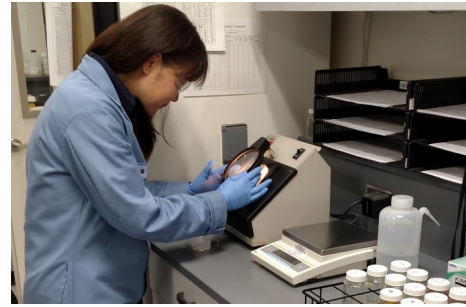
All water systems are required to comply with the State Total Coliform Rule. Beginning April 1, 2016, all water systems were also required to comply with the Federal Revised Total Coliform Rule. The new federal rule maintains the purpose of protecting public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of microbials (i.e., total coliform and E. coli bacteria). The US EPA anticipates greater public health protection as the new rule requires water systems that are vulnerable to microbial contamination to identify and fix problems. Water systems that exceed a specified frequency of total coliform occurrences are required to conduct an assessment to determine if any sanitary defects exist. If found, these must be corrected by the water system.

### **Data Table Notes**

- (a) **Data** shown are annual averages and ranges.
- (b) **Tests are performed on drinking water turbidity** (clarity) at the Water Treatment Plant (WTP) and in the distribution system. The turbidity tests are done continuously at the WTP. In addition, samples are taken each week at various points in the distribution system. This table reflects the clarity or turbidity produced at the WTP and in the distribution system.
- (c) **The turbidity** level of the filtered water shall be less than or equal to 0.3 NTU in 95% of the measurements taken each month and shall not exceed 1.0 NTU at any time.
- (d) **Total coliform MCLs:** No more than 5% of the monthly samples may be total coliform positive.
- (e) **The City of Escondido Water Distribution System** consists of approximately 436 miles of pipelines. Tests are performed each week at various points along the system for compliance with bacteriological and physical parameters. Of concern to all customers is the bacteriological quality of the drinking water. The distribution system table indicates the number of positive samples found in the system.
- (f) **Data are calculated** from the average of quarterly samples.
- (g) **The Federal and State standards** for lead and copper are Action Levels. If the Action Levels are exceeded, treatment may be required. The data is 90th percentile contaminant (lead/copper) level.
- (h) **This table shows the levels of copper and lead** found in the homes of selected customers. The Copper Lead Rule requires the collection of special samples from designated residents every three years. The amount of lead and copper found in the samples is an indication of the degree of leaching within the customer-owned copper plumbing and brass faucets. If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Escondido is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about the lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at:  
<http://www.epa.gov/lead>.

## Abbreviations Key

<b>AL</b>	<b>Regulatory Action Level:</b> The concentration of a contaminant, which if exceeded, triggers treatment or other requirements.
<b>CFU</b>	<b>Colony-Forming Units</b>
<b>D/DBPR</b>	<b>Disinfectants/Disinfection Byproducts Rule</b>
<b>DLR</b>	<b>Detection Limit for Reporting:</b> For purposes of reporting, a contaminant detected at or above its detection level.
<b>DSYS</b>	<b>Distribution System</b>
<b>EPTD</b>	<b>Entry Point To Distribution</b>
<b>LRAA</b>	<b>Locational Running Annual Average</b>
<b>MCL</b>	<b>Maximum Contaminant Level:</b> The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to PHGs, MRDLGs, and maximum contaminant level goals as economically or technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.
<b>MCLG</b>	<b>Maximum Contaminant Level Goal:</b> The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the US EPA.
<b>MRDL</b>	<b>Maximum Residual Disinfection Limit:</b> The level of a disinfectant added for water treatment that may not be exceeded at the consumer's tap.
<b>MRDLG</b>	<b>Maximum Residual Disinfectant Level Goal:</b> The level of a disinfectant added for water treatment below which there is no known or expected risk to health. MRDLs are set by the US EPA.
<b>mg/L</b>	<b>Milligrams Per Liter:</b> Parts per million (ppm).
<b>N/A</b>	<b>Not Applicable</b>
<b>ND</b>	<b>None Detected:</b> Parameters for detection limits available upon request.
<b>ng/L</b>	<b>Nanograms Per Liter:</b> Parts per trillion (ppt).
<b>NL</b>	<b>Notification Level</b>
<b>NTU</b>	<b>Nephelometric Turbidity Units:</b> A measure of the cloudiness in water. It is a good indicator of the effectiveness of the WTP and distribution system.
<b>pCi/L</b>	<b>PicoCuries Per Liter:</b> A measure of radioactivity.
<b>PDWS</b>	<b>Primary Drinking Water Standard:</b> MCLs for contaminants that affect health, along with their monitoring and reporting requirements, and water treatment requirements.
<b>PHG</b>	<b>Public Health Goal:</b> The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the <i>California EPA</i> .
<b>RAA</b>	<b>Running Annual Average</b>
<b>SI</b>	<b>Saturation Index</b> (Langelier).
<b>TT</b>	<b>Treatment Technique:</b> A required process intended to reduce the level of a contaminant in drinking water.
<b>µg/L</b>	<b>Micrograms Per Liter:</b> Parts per billion (ppb).
<b>umho/cm</b>	<b>Micromhos Per Centimeter:</b> A measure of a substance's ability to convey electricity.
<b>UCMR3</b>	<b>Unregulated Contaminant Monitoring Rules 3</b>
<b>WTP</b>	<b>Water Treatment Plant</b>



## Lead Testing in School Drinking Water Systems

In January of 2017, the California Division of Drinking Water (DDW) required public water systems to test the lead levels of drinking water at any California K-12 school that requested testing, including private, public, and charter schools. While these community water systems extensively and regularly test their drinking water for lead, lead can get into clean water at a school campus if there are corroded pipes or old fixtures at the school. Lead sampling is performed at drinking fountains and faucets used for consumption and preparing food. **In 2017, fourteen schools within the City of Escondido Water Division's service area requested lead sampling, and none of the schools tested exceeded the Action Level (15 ppb) for lead in their school drinking water systems.** The schools tested in 2017 were:

- Bear Valley M.S.
- L.R. Green Elementary
- Juniper Elementary
- Farr Elementary
- Pioneer Elementary
- Rose Elementary
- Glen View Elementary
- Hidden Valley M.S.
- Quantum Academy
- Rincon M.S.
- Del Dios M.S.
- Oak Hill Elementary
- San Pasqual Elementary
- Conway Elementary

**In June of 2017, the Escondido Union High School District retained an independent testing service to perform water sampling at four schools, and none of the samples taken at these sites exceeded the 15 ppb Action Level for lead in their school drinking water systems.** The four high schools were:

- Escondido H.S.
- San Pasqual H.S.
- Orange Glen H.S.
- Valley H.S.

Under California Assembly Bill 746, which took effect January 1, 2018, the state's more than 1,200 community water systems are required to complete lead sampling on the drinking water supplies of K-12 public schools, and day care and preschools on public school properties built before 2010. Upon AB 746 taking effect, the City of Escondido's Water Division worked with both the public and private schools located within its service area to schedule lead sampling at sites that had yet to be tested. **In 2018, drinking water supplies were sampled at five of the districts' schools, and again, none of the schools tested exceeded the Action Level (15 ppb) for lead in their school drinking water systems.** The schools tested in 2018 were:

- Lincoln Elementary
- Felicita Elementary
- Mission M.S.
- Orange Glen Elementary
- Central Elementary

Because California has newer infrastructure and less corrosive water than other parts of the country, less than 1 percent of all samples collected so far statewide have detected elevated levels of lead. The Water Division is continuing to sample for lead in Escondido schools, and is on schedule to complete testing by July 1, 2019.

### Hard Water

Water is considered "hard" when two non-toxic minerals, calcium and magnesium, are present in water in substantial amounts. The term "hard" refers to the difficulty of getting soap to lather when used with this water. You may see the effects of hardness around your kitchen and bathrooms. Hardness is the cause for white scaling in tea kettles and on shower heads and faucets. In some instances, water-related appliances (e.g., dishwashers, water heaters, etc.) may be affected by the level of hardness. When this is the case, the manufacturer of the appliance may ask you to verify the level of hardness in your water. **In 2018, hardness ranged from 7.6 to 14 grains/gallon.**

### Water Taste and Smell

When your water tastes or smells funny, the problem might be in the water or it might not. The odor may actually be coming from your sink drain where bacteria grow on food, soap, hair, and other things that get trapped. Gases in the drain that smell get stirred up when water goes down the pipe. Odor can also come from bacteria growing in water heaters - usually ones that have been turned off for a while or have the thermostat set too low.

Chlorine is added to tap water to ensure that germs in the water are killed. When you can taste or smell a hint of chlorine, your water has been properly treated. There are regulations that limit the amount of chlorine added to tap water. An easy way to get rid of chlorine taste and smell is to let the water sit in a glass for a few minutes or put the water in a covered container and chill it in the refrigerator.

For odor, does it come from only one faucet? Does it go away after running the water for a few minutes? If the answer is yes to either question, the source of the odor is probably within your plumbing system. If no to both questions, please call Water Distribution staff at 760-839-4668.

### Get Involved

The City Council of the City of Escondido is the governing authority for the City's Water Division. The Council normally meets the first four Wednesdays of each month at 6:00 p.m. in the Council Chambers at City Hall. The address is 201 North Broadway, Escondido. Call 760-839-4638 or visit [www.escondido.org/city-council.aspx](http://www.escondido.org/city-council.aspx) for details.



## 2018 Water Quality Data Table

The tables shown below list all of the regulated drinking water contaminants that were detected during the calendar year of this report. The presence of "contaminants" in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA and the State requires that monitoring for certain contaminants be less than once per year because the concentrations of these contaminants do not change frequently.

PARAMETER (a)	Units	State MCL	PHG (MCLG)	Range	Average	DLR	Violation	Typical Source / Comments
<b>Clarity (Turbidity) (b, c)</b>								
Turbidity of Combined Filter Effluent in WTP (at 4 hour intervals)	NTU	TT = 1	N/A	0.04 - 0.12	0.06	-	No	Soil runoff.
	%	95%(<0.3)		Highest NTU = 0.12 %(<0.3NTU) = 100 %				
Turbidity in the Distribution System	NTU	5	N/A	0.05 - 1.64	0.11	-	No	Sediment in distribution system.
				Highest NTU = 1.64				

<b>Microbiological Contaminants (d, e)</b>								
Total Coliform Bacteria (Monthly) in the Distribution System	%	5	(0)	0.00 - 2.96	0.84	-	No	Naturally present in the environment.
				Monthly Highest = 2.96 %				
E.coli (Monthly Positive Number) in the Distribution System	Count	TT	(0)	0 - 0	0	-	No	Human and animal fecal waste.
				Total Positive Number = 0				
Heterotrophic Plate Count Bacteria in the Distribution System	CFU/mL	500	N/A	< 1 - 99	0.22	-	No	Naturally present in the environment.
	%	95%(<500)		% (<500 CFU/ml) = 100 %				
Heterotrophic Plate Count Bacteria in EPTD	CFU/mL	TT = 500	N/A	< 1 - 4	0.08	-	No	Naturally present in the environment.

PARAMETER	Units	State MCL [MRDL]	PHG (MCLG) [MRDLG]	Range	Average	DLR	Violation	Typical Source / Comments
<b>Disinfectants / Disinfection Byproducts in the Distribution System</b>								
Total Trihalomethanes (TTHMs) Locational RAA (LRAA) Highest Locational RAA	µg/L	80	N/A	23 - 56	39	1	No	Byproducts of drinking water chlorination. Sampled quarterly in distribution system. ( Stage 2 D/DBPR) (f)
				34 - 69	49			
				N/A	69			
Haloacetic Acids (HAA5) Locational RAA (LRAA) Highest Locational RAA	µg/L	60	N/A	8 - 21	16	1	No	Byproducts of drinking water chlorination. Sampled quarterly in distribution system. (Stage 2 D/DBPR) (f)
				14 - 31	21			
				N/A	31			
Total Chlorine Residual (Cl2) Running Annual Average(RAA) Highest Running Annual Ave.	mg/L	[4.0]	[4.0]	0.8 - 3.3	2.6	-	No	Addition of chlorine and ammonia as a combined disinfectant, chloramine. Calculated quarterly with monthly average values.
				2.61 - 2.69	2.66			
				N/A	2.69			
Chlorite (ClO2-) Monthly Average	mg/L	1	0.05	0.09 - 0.23	0.13	0.02	No	Byproducts of drinking water chlorination. Monitored during pre-chlorination with chlorine dioxide.
				0.11 - 0.21	0.14			
Chlorate (ClO3-) Monthly Average	µg/L	(NL=800)	N/A	300 - 460	380	20	No	Byproducts of drinking water chlorination. Monitored during pre-chlorination with chlorine dioxide.
				310 - 440	375			

PARAMETER	Units	State MCL	PHG (MCLG)	Range	Average	DLR	Violation	Typical Source / Comments
<b>Inorganic Contaminants - Primary Standards (Finished Water)</b>								
Fluoride (F)	mg/L	2	1	0.63 - 0.79	0.72	0.1	No	Erosion of natural deposits. Adding fluoride helps prevent dental caries in consumers. (Control Range: 0.6 - 1.2 ppm. Optimal Level: 0.7 ppm)

<b>Inorganic Contaminants - Secondary Standards (Finished Water)</b>								
Color	Units	15	N/A	1 - 1	1	-	No	Decaying vegetation or other naturally occurring organic materials.
Chloride (Cl-)	mg/L	500	N/A	66 - 97	87	-	No	Runoff / leaching from natural deposits. Seawater influence.
Corrosivity	SI	Non-corrosive	N/A	-0.22 - 0.44	0.21	-	No	Natural or industrial-influenced balance of hydrogen, carbon, and oxygen in the water. Affected by temperature and other factors.
Odor	Units	3	N/A	ND - 1	ND	-	No	Naturally-occurring organic materials.
Specific conductance	umho/cm	1600	N/A	571 - 969	803	-	No	Substances that form ions when in water. Seawater influences.
Sulfate (SO4)2-	mg/L	500	N/A	94 - 190	159	0.5	No	Runoff / leaching from natural deposits. Industrial wastes.
Total Dissolved Solids	mg/L	1000	N/A	310 - 700	494	-	No	Runoff / leaching from natural deposits. Industrial wastes.
Turbidity	NTU	5	N/A	0.05 - 0.15	0.10	-	No	Soil runoff.

<b>Inorganic Contaminants - Unregulated (Finished Water)</b>								
Boron	mg/L	(NL=1)	N/A	0.11 - 0.13	0.13	0.1	No	The State is considering setting concentration limits for boron. State regulations now require monitoring, though no limit is set.
Molybdenum	µg/L	N/A	N/A	2.7 - 4.1	3.5	1	No	UCMR3; list 1 contaminant. Sampled in year 2013.
Strontium	µg/L	N/A	N/A	440 - 830	708	0.3	No	UCMR3; list 1 contaminant. Sampled in year 2013.
Vanadium	µg/L	(NL=50)	N/A	ND - 0.29	ND	0.2	No	UCMR3; list 1 contaminant. Sampled in year 2013.
Chlorate	µg/L	(NL=800)	N/A	300 - 430	365	20	No	Byproduct of drinking water chlorination. Monitored during pre-chlorination with chlorine dioxide.

PARAMETER	Units	State MCL	PHG (MCLG)	Range	Average	DLR	Violation	Typical Source / Comments
<b>Organic Contaminants - Unregulated (Finished Water)</b>								
Bromochloromethane	µg/L	N/A	N/A	ND - 0.063	ND	0.06	No	UCMR3. List 1 contaminant. Volatile organic compound. Sampled in year 2013.
<b>Radionuclides Contaminants (Finished Water): Year 2018</b>								
Gross Alpha Activity	pCi/L	15	(0)	ND - 3.12	ND	3	No	Erosion of natural deposits.
Gross Beta Particle Activity	pCi/L	50	(0)	ND - 6.91	ND	4	No	Decay of natural and man-made deposits.
Uranium	pCi/L	20	0.43	1.3 - 2.0	1.7	1	No	Erosion of natural deposits.
PARAMETER	Units	State AL	PHG	90th Percentile of 60 Samples	# of Sites > AL	DLR	Violation	Typical Source / Comments
<b>Inorganic Contaminants - Copper / Lead in Residential Taps : Year 2018 (g, h)</b>								
Copper (Cu)	mg/L	1.3	0.3	0.46	0	0.05	No	Corrosion of household plumbing systems.
Lead (Pb)	µg/L	15	0.2	< 5	0	5	No	Corrosion of household plumbing systems. Erosion of natural deposits.
PARAMETER	Units	State MCL	PHG (MCLG)	Range	Average	DLR	Violation	Typical Source / Comments
<b>Additional Analyzed (Finished Water)</b>								
Total Alkalinity as CaCO3	mg/L	N/A	N/A	83 - 120	106	-	No	Erosion of natural deposits. Leaching.
Bicarbonate (HCO3 <sup>-</sup> )	mg/L	N/A	N/A	100 - 140	125	-	No	Erosion of natural deposits. Leaching.
pH	Units	N/A	N/A	7.83 - 8.04	7.95	-	No	
Hardness as CaCO3	mg/L	N/A	N/A	140 - 250	203	-	No	Leaching. Hardness is mostly due to the presence of magnesium and calcium, usually naturally occurring.
Calcium (Ca)	mg/L	N/A	N/A	33 - 63	50	-	No	Erosion of natural deposits. Leaching.
Magnesium (Mg)	mg/L	N/A	N/A	13 - 22	19	-	No	Erosion of natural deposits. Leaching.
Sodium (Na)	mg/L	N/A	N/A	56 - 86	76	-	No	Leaching. Sodium refers to the salt present in the water and is generally naturally occurring.
Potassium (K)	mg/L	N/A	N/A	3.1 - 4.5	4.0	-	No	Erosion of natural deposits. Leaching.
Silica (SiO2)	mg/L	N/A	N/A	7.2 - 8.8	7.8	-	No	Erosion of natural deposits. Leaching.
Total Chlorine Residual (Cl2)	mg/L	[4.0]	[4.0]	2.3 - 3.3	2.9	-	No	Addition of chlorine and ammonia as a combined disinfectant, chloramine.
Total Trihalomethanes (TTHMs)	µg/L	80	N/A	24 - 46	37	1	No	Byproducts of drinking water chlorination.
Haloacetic Acids (HAA5)	µg/L	60	N/A	10 - 21	16	1	No	Byproducts of drinking water chlorination.
Chlorite (ClO2 <sup>-</sup> )	mg/L	1	0.05	0.13 - 0.23	0.15	0.02	No	Byproducts of drinking water chlorination. Monitored during pre-chlorination with chlorine dioxide.
Total Organic Carbon (TOC)	mg/L	TT	N/A	1.7 - 2.3	2.0	0.3	No	TOC provides a medium for the formation of disinfectant byproducts. These by-products include TTHMs and HAA5.

**Notice:** Sources of drinking water include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animal or human activity. Contaminants that may be present in source water:

- ✘ **Microbial contaminants**, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, pets, and wildlife.
- ✘ **Inorganic contaminants**, such as salts and metals that can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- ✘ **Pesticides and herbicides**, which may come from a variety of sources like agriculture, urban stormwater runoff, and residential uses.
- ✘ **Organic chemical contaminants**, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- ✘ **Radioactive contaminants**, which can be naturally occurring or the result of oil and gas production and mining activities.

For volumetric measurements used in this report, please consider the following approximations for perspective purposes:

- 1 part per million = 1 packet of artificial sweetener added to 250 gallons of iced tea. (mg/L)
- 1 part per billion = 1 packet of artificial sweetener added to an Olympic size swimming pool. (µg/L)
- 1 part per trillion = 3 grains of artificial sweetener added to an Olympic size swimming pool. (ng/L)

If you have any questions about the water quality information provided in this report, please call Timothy Kwak, Supervising Chemist, at 760-839-6290, ext. 7062.