

2017 WATER QUALITY REPORT

Data collected for 2016 calendar year

Our Promise to You: *Quality. Delivered.*

Truckee Meadows Water Authority (TMWA) is dedicated to providing reliable service and delivering high-quality drinking water to more than 385,000 residents and businesses throughout the Reno and Sparks area. In accordance with the US Environmental Protection Agency's (EPA) Consumer Confidence Rule, I am pleased to provide you with our annual Water Quality Report on behalf of TMWA's staff and board of directors. This information is provided to inform you about the source of your drinking water and how it compares to the drinking water standards established by the EPA. We are providing this report electronically. If you would like a print copy mailed to you, please call Water Quality Chemist Jackie Boado at (775) 834-8186 or contact her by e-mail at jboado@tmwa.com.

TMWA has been recognized with the President's Award from the Partnership for Safe Water. This award ranks TMWA's Chalk Bluff Water Treatment Plant among the highest performing water treatment plants in the country for individual filter performance.

TMWA's staff takes pride in the water we deliver to your tap. Maintaining and improving the system's infrastructure for the safety of our customers is a constant priority. As your community-owned water purveyor, we are always ready to answer your inquiries and discuss your water quality. If you have specific questions, please call our Water Quality Department at 834-8118. Visit us at tmwa.com for a complete list of TMWA departments. Overseeing and maintaining our water quality for the safety of the public is our number one priority every day.

Yours in good health,



Mark Foree, General Manager



A great source combined with a great team makes for a high-quality product.

Lake Tahoe, famous for its clarity and quality, and the Truckee River system are our region's primary sources of drinking water. However, no matter how clear and pure a water source is, it still takes highly skilled and trained scientists, engineers, and operators to supply, treat, and deliver high-quality drinking water to customers 24 hours a day, 7 days a week, 365 days a year. TMWA has two surface water treatment facilities. During a typical year, TMWA only uses 3 to 9 percent of the total flow of the Truckee River to meet our customers' needs. The Truckee River meets more than 83 percent of TMWA's annual customer demand; the remainder is filled by groundwater located within our service area.

What regulations does TMWA water meet?

TMWA adheres to all federal, state, and local water regulations set forth by the Environmental Protection Agency, State of Nevada Division of Environmental Protection, and the Washoe County Health District. TMWA is required to monitor and meet regulatory standards for more than one hundred contaminants. All water delivered to customers is treated and must adhere to some of the strictest drinking water regulations in the world.

Truckee Meadows Water Authority is a not-for-profit, community-owned water utility, overseen by elected officials from Reno, Sparks and Washoe County. TMWA employs a highly skilled team who ensure the treatment, delivery, and availability of high-quality drinking water around the clock for more than 385,000 residents of the Truckee Meadows.

TEST RESULTS: 2016 WATER QUALITY DATA

The table below lists all of the primary regulated drinking water contaminants that TMWA detected during the 2016 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 are from testing done during the calendar year of the report. The EPA or the state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not change frequently.

CONTAMINANTS	MCLG OR MRDLG	MCL, TT, OR MRDL	2016 Result	System Weighted Average	Range Low	Range High	Sample Year	Violation?	Typical Source
DISINFECTANTS & DISINFECTANT BY-PRODUCTS (There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants)									
Chlorine (as Cl ₂) (ppm)	4	4	0.78	0.78	0.20	1.41	2016	No	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb)	NA	60	41	41	ND	57	2016	No	By-product of drinking water chlorination
TTHMs [Total Trihalomethanes] (ppb)	NA	80	67	67	ND	74	2016	No	By-product of drinking water disinfection
INORGANIC CONTAMINANTS									
Antimony (ppb)	6	6	2.4	0.043	ND	5.4	2016	No	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder; test addition.
Arsenic (ppb)	0	10	6.76	0.173	ND	14.7	2016	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium (ppm)	2	2	0.0937	0.015	ND	0.0937	2016	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chromium (ppb)	100	100	9.2	<5.0	ND	9.2	2016	No	Discharge from steel and pulp mills; Erosion of natural deposits
Mercury [Inorganic] (ppb)	2	2	0.2	0.001	ND	0.2	2016	No	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland
Nitrate [measured as Nitrogen] (ppm)	10	10	4.14	0.143	ND	4.14	2016	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrate-Nitrite [measured as Nitrogen] (ppm)	10	10	2.24	0.017	ND	2.24	2016	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
MICROBIOLOGICAL CONTAMINANTS									
Total Coliform (% positive samples/month)	0	5	0	0	0	0	2016	No	Naturally present in the environment
Turbidity (NTU)	100% of the samples were below the TT value of 0.2. A percentage less than 95% constitutes a TT violation. The highest single measurement was 0.066. Any measurement in excess of 1 is a violation unless otherwise approved by the state.								Soil runoff
RADIOACTIVE CONTAMINANTS									
Alpha emitters (pCi/L)	0	15	6.9	0.044	ND	6.9	2016	No	Erosion of natural deposits
Radium (combined 226/228) (pCi/L)	0	5	1	0.002	ND	1	2016	No	Erosion of natural deposits
Uranium (ug/L)	0	30	15	0.068	ND	15	2016	No	Erosion of natural deposits
SYNTHETIC ORGANIC CONTAMINANTS INCLUDING PESTICIDES AND HERBICIDES									
2,4-D (ppb)	70	70	0.23	0.166	ND	0.23	2016	No	Runoff from herbicide used on row crops
Hexachlorocyclopentadiene (ppb)	50	50	0.05	0.036	ND	0.05	2016	No	Discharge from chemical factories
VOLATILE ORGANIC CONTAMINANTS									
1,1-Dichloroethylene (ppb)	7	7	0.63	0.001	ND	0.63	2016	No	Discharge from industrial chemical factories
Tetrachloroethylene (ppb)	0	5	2.4	0.0005	ND	2.4	2016	No	Discharge from factories and dry cleaners
Trichloroethylene (ppb)	0	5	0.6	0.002	ND	0.6	2016	No	Discharge from metal degreasing sites and other factories

CONTAMINANTS	MCLG	AL	2016 Result	# Samples Exceeding AL	Sample Date	Exceeds AL?	Typical Source
INORGANIC CONTAMINANTS							
Copper-action level at consumer taps (ppm)	1.3	1.3	0.148	0	2016	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead-action level at consumer taps (ppb)	0	15	<1.0	0	2016	No	Corrosion of household plumbing systems; Erosion of natural deposits

UNIT DESCRIPTIONS			
Term	Definition	Term	Definition
ug/L	Number of micrograms of substance in one liter of water	% positive samples/month	Percent of samples taken monthly that were positive
ppm	Parts per million, or milligrams per liter (mg/L)	NA	Not applicable
ppb	Parts per billion, or micrograms per liter (µg/L)	ND	Not detected
pCi/L	Picocuries per liter (a measure of radioactivity)	NR	Monitoring not required, but recommended.
NTU	Nephelometric Turbidity Units. Turbidity is a measure of the cloudiness of the water.		

IMPORTANT DRINKING WATER DEFINITIONS	
Term	Definition
MCLG	Maximum Contaminant Level Goal: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
MCL	Maximum Contaminant Level: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
TT	Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.
AL	Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
Variances and Exemptions	State or EPA permission not to meet an MCL or a treatment technique under certain conditions.
MRDLG	Maximum residual disinfection level goal. The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
MRDL	Maximum residual disinfectant level. The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MNR	Monitored Not Regulated

NOTES: SYSTEM WEIGHTED AVERAGE: The 2017 Water Quality Report is mandated by the EPA to give our consumers the highest recorded value of any constituent detected from all sources in 2016. However, most groundwater wells, where most of our reported constituents were detected, are only used when system demands are at their peak—during the summer months. In 2016, these wells accounted for less than 18 percent of the water that TMWA customers consumed. The “system weighted average” value is based on the percentage of total production and highest compliance value recorded for the year. In this way, we not only report the highest value detected in our system for any constituent but also give you an idea of how little that groundwater is used when compared with the total water produced from our two surface water plants. This report will also allow us to give you a more meaningful representation of the water you receive, rather than just a highest detected value for a well that may only operate one day a week.

Tetrachloroethylene (PCE)/ARSENIC/THM/HAA/ANTIMONY: Compliance for these constituents is determined by calculating the running annual average. Sampling is conducted on either a daily or quarterly basis at designated locations. A corresponding quarterly average is determined from these samples, and the running annual average is calculated by using the four most recent quarterly averages. A single sample may show that an individual result is over the MCL but the compliance value remains below it. All water meets all local, state, and federal standards and is safe to drink.

HEALTH INFORMATION ABOUT WATER QUALITY

RESULTS OF *CRYPTOSPORIDIUM* MONITORING

Cryptosporidium is a microbial pathogen found in surface water throughout the United States. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100 percent removal. Our monitoring indicates the presence of these organisms in our source water. Current test methods do not allow us to determine whether the organisms are dead or are capable of causing disease. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immunocompromised people are at greater risk of developing a life-threatening illness. We encourage immunocompromised individuals to consult their doctors regarding appropriate precautions to take to avoid infection. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water.

TMWA routinely monitors our source water and finished water for *Cryptosporidium*. No *Cryptosporidium* oocysts were detected in the finished treated water sampled from the Chalk Bluff and Glendale Water Treatment Facilities.

ADDITIONAL INFORMATION FOR ARSENIC

Although your drinking water meets EPA standards for arsenic, it does contain low levels. EPA standards balance the current understanding of arsenic’s possible health effects against the costs of removing arsenic from drinking water. The EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

ADDITIONAL WATER QUALITY INFORMATION

Total organic carbon (TOC) has no health effects. However, TOC provides a medium for the formation of disinfection by-products. These by-products include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these by-products in excess of the MCL may lead to adverse health effects, liver or kidney problems, nervous system effects, and may increase the risk of getting cancer. Some people who drink water containing HAAs in excess of the MCL over many years may have an increased risk of getting cancer.

Some people who drink water containing antimony, well in excess of the MCL over many years, experience increases in blood cholesterol and decreases in blood sugar.

Nitrate concentration in drinking water at levels above 10 ppm poses a health risk for infants younger than six months of age. High nitrate levels in drinking water can cause blue-baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider.

WATER TREATMENT PLANT FILTER LOADING RATE

After satisfactory demonstration, TMWA has been granted approval by the State of Nevada Bureau of Safe Drinking Water to operate the Glendale Water Treatment Plant at the accelerated filter loading rate up to 7.5 gallons per minute (gpm)/square foot and the Chalk Bluff Water Treatment Plant at up to 8.5 gpm/square foot under the conditions that while operating at the accelerated filter loading rate, no individual filter at either plant may exceed 0.2 NTU, and the Chalk Bluff combined filter turbidity may not exceed 0.2 NTU.

TREATMENT PROCESS FOCUSES ON HEALTH

The water delivered to your tap meets all US Environmental Protection Agency (EPA) and State of Nevada drinking water health standards. It undergoes a multistage treatment process and is rigorously tested daily. Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised people—such as people with cancer undergoing chemotherapy, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly individuals, and infants—can be particularly at risk from infections. These people should seek advice from their health care providers about their drinking water.

The EPA/CDC has guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants. More information about these and other contaminants and their potential health effects can be obtained by calling the Safe Drinking Water Hotline at (800) 426-4791. We test for *Cryptosporidium* biweekly in both our source water and treated water. *Cryptosporidium* can be present in the Truckee River but has not been found in the treated water that goes to your tap.

WHY ARE THERE CONTAMINANTS IN MY DRINKING WATER?

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800) 426-4791. The sources of drinking water (both tap water and bottled) 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 animals or human activity.

Contaminants that may be present in source water include:

- Microbial contaminants such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife
- Inorganic contaminants such as salts and metals, which 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, including agriculture, urban stormwater runoff, and residential uses
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which 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 or mining activities

To ensure tap water is safe to drink, the EPA prescribes regulations that limit the number of certain contaminants in water provided by public water systems. In addition, the Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water to provide the same protection for public health.

REQUIRED CONSUMER CONFIDENCE REPORT (CCR) STATEMENT ADDRESSING LEAD IN DRINKING WATER

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. TMWA 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 thirty seconds to two minutes before using water for drinking or cooking. If you are concerned about 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 at 800-426-4791 or at epa.gov/safewater/lead.

SOURCE WATER ASSESSMENT AND ITS AVAILABILITY

The Federal Safe Drinking Water Act was amended in 1996 and requires states to develop and implement source water assessment programs to analyze existing and potential threats to the quality of public drinking water throughout Nevada. A summary of TMWA's susceptibility to potential sources of contamination was initially provided by Nevada in 2003. The summary of this source water assessment was first included in the TMWA 2004 Water Quality Report and may now be accessed online at tmwa.com. Information pertaining to the initial findings of the source water assessment is available for viewing in person at the offices of the Bureau of Safe Drinking Water, 901 South Stewart St., Ste. 4001, Carson City, NV 89701. Appointments are suggested; please call (775) 687-9520. Office hours are 8 a.m. to 5 p.m., Monday through Friday.

WHERE CAN I GET WATER QUALITY DATA?

The Water Quality section of our website, tmwa.com/quality, provides water quality information for different areas of our service territory. We also maintain a news and information page with fact sheets on water quality issues as well as information on home water filtration systems. Additional information on our water sources, distribution, and treatment can also be found online. If you have additional questions or need more information, please contact any of the following staff:

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