

# Town of Genoa 2019 Drinking Water Quality Report For Calendar Year 2018

*Public Water System ID: CO0137005*

**Esta es información importante. Si no la pueden leer, necesitan que alguien se la traduzca.**

We are pleased to present to you this year's water quality report. Our constant goal is to provide you with a safe and dependable supply of drinking water. Please contact Patrick Parker at 303.838.7428 with any questions or for public participation opportunities that may affect water quality.

## **General Information**

All 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 Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791) or by visiting <http://water.epa.gov/drink/contaminants>.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 of infections. These people should seek advice about drinking water from their health care providers. For more information about contaminants and potential health effects, or to receive a copy of the U.S. Environmental Protection Agency (EPA) and the U.S. Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and microbiological contaminants call the EPA Safe Drinking Water Hotline at (1-800-426-4791).

The sources of drinking water (both tap water and bottled 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 animals or from human activity. Contaminants that may be present in source water include:

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

water is safe to drink, the Colorado Department of Public Health and Environment prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

## **Lead in Drinking Water**

If present, elevated levels of lead can cause serious health problems (especially for pregnant women and young children). It is possible that lead levels at your home may be higher than other homes in the community as a result of materials used in your home's plumbing. If you are concerned about lead in your water, you may wish to have your water tested. 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. Additional information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

## **Source Water Assessment and Protection (SWAP)**

The Colorado Department of Public Health and Environment may have provided us with a Source Water Assessment Report for our water supply. For general information or to obtain a copy of the report please visit [www.colorado.gov/cdphe/ccr](http://www.colorado.gov/cdphe/ccr). The report is located under "Guidance: Source Water Assessment Reports". Search the table using PWSID# CO0137005, Town of Genoa, or by contacting Patrick Parker at 303.838.7428. The Source Water Assessment Report provides a screening-level evaluation of potential contamination that *could* occur. It *does not* mean that the contamination *has or will* occur. We can use this information to evaluate the need to improve our current water treatment capabilities and prepare for future contamination threats. This can help us ensure that quality finished water is delivered to your homes. In addition, the source water assessment results provide a starting point for developing a source water protection plan. Potential sources of contamination in our source water area are listed on the next page.

Please contact us to learn more about what you can do to help protect your drinking water sources, any questions about the Drinking Water Quality Report, to learn more about our system, or to attend scheduled public meetings. We want you, our valued customers, to be informed about the services we provide and the quality water we deliver to you every day.

## Our Water Sources

<u>Source</u>	<u>Source Type</u>	<u>Water Type</u>
Bovina North Well NO 1	Well	Groundwater
Bovina South Well NO 2R	Well	Groundwater
Trench Well	Well	Groundwater under direct influence of surface water
West Spring	Well/Cistern	Groundwater under direct influence of surface water
Ogallala Well Spring	Well	Groundwater under direct influence of surface water

Land use or land cover type of potential contamination include: *Commercial, industrial transportation. Row crops, fallow and small grains, leaking septic systems, and road miles*

## Terms and Abbreviations

- **Maximum Contaminant Level (MCL)** – The highest level of a contaminant allowed in drinking water.
- **Treatment Technique (TT)** – A required process intended to reduce the level of a contaminant in drinking water.
- **Health-Based** – A violation of either a MCL or TT.
- **Non-Health-Based** – A violation that is not a MCL or TT.
- **Action Level (AL)** – The concentration of a contaminant which, if exceeded, triggers treatment and other regulatory requirements.
- **Maximum Residual Disinfectant Level (MRDL)** – 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.
- **Maximum Contaminant Level Goal (MCLG)** – 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.
- **Maximum Residual Disinfectant Level Goal (MRDLG)** – 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.
- **Violation (No Abbreviation)** – Failure to meet a Colorado Primary Drinking Water Regulation.
- **Formal Enforcement Action (No Abbreviation)** – Escalated action taken by the State (due to the risk to public health, or number or severity of violations) to bring a non-compliant water system back into compliance.
- **Variance and Exemptions (V/E)** – Department permission not to meet a MCL or treatment technique under certain conditions.
- **Gross Alpha (No Abbreviation)** – Gross alpha particle activity compliance value. It includes radium-226, but excludes radon 222, and uranium.
- **Picocuries per liter (pCi/L)** – Measure of the radioactivity in water.
- **Nephelometric Turbidity Unit (NTU)** – Measure of the clarity or cloudiness of water. Turbidity in excess of 5 NTU is just noticeable to the typical person.
- **Compliance Value (No Abbreviation)** – Single or calculated value used to determine if regulatory contaminant level (e.g. MCL) is met. Examples of calculated values are the 90<sup>th</sup> Percentile, Running Annual Average (RAA) and Locational Running Annual Average (LRAA).
- **Average (x-bar)** – Typical value.
- **Range (R)** – Lowest value to the highest value.
- **Sample Size (n)** – Number or count of values (i.e. number of water samples collected).

- **Parts per million = Milligrams per liter (ppm = mg/L)** – One part per million corresponds to one minute in two years or a single penny in \$10,000.
- **Parts per billion = Micrograms per liter (ppb = ug/L)** – One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.
- **Not Applicable (N/A)** – Does not apply or not available.
- **Level 1 Assessment** – A study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.
- **Level 2 Assessment** – A very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

### Detected Contaminants

**Town of Genoa** routinely monitors for contaminants in your drinking water according to Federal and State laws. The following table(s) show all detection's found in the period of January 1 to December 31, 2018 unless otherwise noted. The State of Colorado requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. Therefore, some of our data, though representative, may be more than one year old. Violations and Formal Enforcement Actions, if any, are reported in the next section of this report.

**Note:** Only detected contaminants sampled within the last 5 years appear in this report. If no tables appear in this section then no contaminants were detected in the last round of monitoring.

<b>Disinfectants Sampled in the Distribution System</b>						
<b>TT Requirement:</b> At least 95% of samples per period (month or quarter) must be at least 0.2 ppm <b><i>OR</i></b> If sample size is less than 40 no more than 1 sample is below 0.2 ppm <b>Typical Sources:</b> Water additive used to control microbes						
Disinfectant Name	Time Period	Results	Number of Samples Below Level	Sample Size	TT Violation	MRDL
Chlorine	December, 2018	<u>Lowest period</u> percentage of samples meeting TT requirement: 100%	0	1	No	4.0 ppm

<b>Lead and Copper Sampled in the Distribution System</b>								
Contaminant Name	Time Period	90 <sup>th</sup> Percentile	Sample Size	Unit of Measure	90 <sup>th</sup> Percentile AL	Sample Sites Above AL	90 <sup>th</sup> Percentile AL Exceedance	Typical Sources
Copper	09/25/2018 to 09/26/2018	0.62	5	ppm	1.3	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

Disinfection Byproducts Sampled in the Distribution System									
Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
Total Haloacetic Acids (HAA5)	2018	7.4	7.4 to 7.4	1	ppb	60	N/A	No	Byproduct of drinking water disinfection
Total Trihalomethanes (TTHM)	2018	21.9	21.9 to 21.9	1	ppb	80	N/A	No	Byproduct of drinking water disinfection

Disinfectants Sampled at the Entry Point to the Distribution System							
Disinfectant Name	Year	Number of Samples Above or Below Level	Sample Size	TT/MRDL Requirement	TT/MRDL Violation	Typical Sources	
Chlorine/Chloramine	2018	0	342	TT = No more than 4 hours with a sample below 0.7 MG/L	No	Water additive used to control microbes	

Summary of Turbidity Sampled at the Entry Point to the Distribution System					
Contaminant Name	Sample Date	Level Found	TT Requirement	TT Violation	Typical Sources
Turbidity	Date/Month: March	<u>Highest single</u> measurement: 1.12 NTU	Maximum 5 NTU for any single measurement	No	Soil Runoff
Turbidity	Month: December	<u>Lowest monthly</u> percentage of samples meeting TT requirement for our technology: 100 %	In any month, at least 95% of samples must be less than 1 NTU	No	Soil Runoff

Radionuclides Sampled at the Entry Point to the Distribution System									
Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
Gross Alpha	2016	1.45	0.61 to 2.3	2	pCi/L	15	0	No	Erosion of natural deposits
Combined Radium	2016	0.2	0.2 to 0.2	1	pCi/L	5	0	No	Erosion of natural deposits
Combined Uranium	2016	17	17 to 17	1	ppb	30	0	No	Erosion of natural deposits

**Inorganic Contaminants Sampled at the Entry Point to the Distribution System**

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
Arsenic	2018	4	4 to 4	1	ppb	10	0	No	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium	2018	0.14	0.14 to 0.14	1	ppm	2	2	No	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride	2018	0.63	0.63 to 0.63	1	ppm	4	4	No	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate	2018	7.75	7.3 to 8.9	4	ppm	10	10	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	2018	10	10 to 10	1	ppb	50	50	No	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines

**Arsenic:** while your drinking water *meets the EPA's standard for arsenic, it does contain low levels of arsenic.* The EPA's standard balances 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.

**Nitrate:** *Nitrate in drinking water at levels above 10 ppm* is a health risk for infants of less 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 advice from your health care provider.

**Synthetic Organic Contaminants Sampled at the Entry Point to the Distribution System**

Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	MCL	MCLG	MCL Violation	Typical Sources
Picloram	2018	0.08	0.08 to 0.3	4	ppb	500	500	No	Herbicide runoff

Cryptosporidium and Raw Source Water E. coli			
Contaminant Name	Year	Number of Positives	Sample Size
E. Coli	2018	3	8

Secondary Contaminants**						
**Secondary standards are <u>non-enforceable</u> guidelines for contaminants that may cause cosmetic effects (such as skin, or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water.						
Contaminant Name	Year	Average	Range Low – High	Sample Size	Unit of Measure	Secondary Standard
Sodium	2018	49	49 to 49	1	ppm	N/A

**Violations, Significant Deficiencies, Backflow/Cross-Connection, and Formal Enforcement Actions**

	Category	Time Period	Health Effects	Compliance Value	TT Level or MCL
VOLATILE ORGANICS	FAILURE TO MONITOR AND/ORREPORT-NON-HEALTH-BASED	07/01/2018 to 09/30/2018	N/A	N/A	N/A
TURBIDITY	FAILURE TO MONITOR AND/ORREPORT-NON-HEALTH-BASED	12/01/2018 to 12/31/2018	N/A	N/A	N/A
CHLORINE/CHLORAMINE	FAILURE TO MONITOR AND/ORREPORT-NON-HEALTH-BASED	12/01/2018 to 12/31/2018	N/A	N/A	N/A

**Additional Violation Information**

**Note:** Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

\*Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.\*

Explanation of the violation(s), the steps taken to resolve them, and the anticipated resolved date:

**Volatile Organics Monitoring:** The ORC (Operator Responsible in Charge) responsible for collecting monthly, quarterly, and annual samples misinterpreted the towns drinking water monitoring schedule. VOC samples were collected in January but were required to be collected between July 1 and September 30 of 2018 resulting in the violation. The ORC subsequently now keeps a tracking log of samples collected to better track completed monitoring requirements. Matter resolved 10-5-2019

**Chlorine/Chloramine and Turbidity Monitoring:** The town was temporarily without staff of the time of the violation (12/01/2018 to 12/31/2018) to properly monitor chlorine and turbidity (daily requirements). The town has since employed new maintenance personnel and provided training to staff and Water Board members who can serve as back-up monitoring personnel in the event the operator (ORC) or maintenance staff is unavailable. Matter resolved January 2019.