# Town of Genoa 2017 Drinking Water Quality Report
# For Calendar Year
# 2016

***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 stormwater 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 stormwater 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 has 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 http://wqcdcompliance.com/ccr. The report is located under "Source Water Assessment Reports", and then "Assessment Report by County". Select **Lincoln** County and find **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

| Source | Source Type | Water Type |
|---|---|---|
| Bovina North Well NO 1 | Well | Groundwater |
| West Spring | Well | Groundwater UDI Surface Water |
| Trench Well | Well | Groundwater UDI Surface Water |
| Ogallala Well Spring NO 2 | Well | Groundwater UDI Surface Water |
| Bovina South Well NO2R | Well | Groundwater |

**Land use or land cover types of potential contamination include: C**ommercial, 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$^{th}$ 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

The Town of Genoa routinely monitors for contaminants in your drinking water according to Federal and State laws. The following table(s) show all detections found in the period of January 1 to December 31, 2016 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.

**Disinfectants Sampled in the Distribution System**
**TT Requirement**: At least 95% of samples per period (month or quarter) must be at least 0.2 ppm ***OR***
If sample size is less than 40 no more than 1 sample is below 0.2 ppm
**Typical Sources:** Water additive used to control microbes

| Contaminant Name | Time Period | Results | Number of Samples Below Level | Sample Size | TT Violation | MRDL |
|---|---|---|---|---|---|---|
| Chlorine | December, 2016 | Lowest period percentage of samples meeting TT requirement: 100% | 0 | 1 | No | 4.0 ppm |

**Lead and Copper Sampled in the Distribution System**

| Contaminant Name | Time Period | 90th Percentile | Sample Size | Unit of Measure | 90th Percentile AL | Sample Sites Above AL | 90th Percentile AL Exceedance | Typical Sources |
|---|---|---|---|---|---|---|---|---|
| Copper | 06/13/2016 To 06/13/2016 | 0.13 | 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** | **Highest Compliance Value** | **MCL Violation** | **Typical Sources** |
| Total Haloacetic Acids (HAA5) | 2016 | 11.1 | 11.1 to 11.1 | 1 | ppb | 60 | N/A | 11.1 | No | Byproduct of drinking water disinfection |
| Total Trihalomethanes (TTHM) | 2016 | 27.6 | 27.6 to 27.6 | 1 | ppb | 80 | N/A | 27.6 | No | Byproduct of drinking water disinfection |

| Disinfectants Sampled at the Entry Point to the Distribution System | | | | | | |
|---|---|---|---|---|---|---|
| **Contaminant Name** | **Year** | **Number of Samples Above or Below Level** | **Sample Size** | **TT/MRDL Requirement** | **TT/MRDL Violation** | **Typical Sources** |
| Chlorine/Chloramine | 2016 | 0 | 366 | TT = No more than 4 hours with a sample below 0.7 mg/L | Yes | 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: May | Highest single measurement: .22 NTU | Maximum 5 NTU for any single measurement | No | Soil Runoff |
| Turbidity | Month: December | Lowest monthly 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 | 2.3 | 2.3 to 2.3 | 1 | 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 | 2016 | 5 | 5 to 5 | 1 | ppb | 10 | 0 | No | Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes |
| Barium | 2016 | 0.22 | 0.22 to 0.22 | 1 | ppm | 2 | 2 | No | Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits |
| Chromium | 2016 | 1 | 1 to 1 | 1 | ppb | 100 | 100 | No | Discharge from steel and pulp mills; erosion of natural deposits |
| Fluoride | 2016 | 0.68 | 0.68 to 0.68 | 1 | ppm | 4 | 4 | No | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories |
| Nitrate | 2016 | 7.96 | 6.4 to 9.0 | 5 | ppm | 10 | 10 | No | Runoff from fertilizer use; leaching from septic tanks, sewage; 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** |
| Selenium | 2016 | 10 | 10 to 10 | 1 | ppb | 50 | 50 | No | Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines |

**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.

**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.

| 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 | 2016 | 0.1 | 0.1 to 0.1 | 1 | ppb | 500 | 500 | No | Herbicide runoff |
| **Volatile 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** |
| Xylenes | 2016 | 0.5 | 0.5 to 0.5 | 1 | ppb | 10,000 | 10,000 | No | Discharge from petroleum factories; discharge from chemical factories |

**Secondary Contaminants****

**Secondary standards are non-enforceable 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 | 2016 | 39.4 | 39.4 to 39.4 | 1 | ppm | N/A |

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

| Violations | | | | | |
|---|---|---|---|---|---|
| **Name** | **Category** | **Time Period** | **Health Effects** | **Compliance Value** | **TT Level or MCL** |
| VOLATILE ORGANICS | MONITORING, ROUTINE MAJOR-NON HELATH -BASED | 01/01/2016 - 12/31/2016 | N/A | N/A | N/A |
| PUBLIC NOTICE | PUBLIC NOTICE RULE LINKED TO VIOLATION-NON-HEALTH-BASED | 07/23/2016 - 09/19/2016 | N/A | N/A | N/A |
| LT2ESWTR | FAILURE TO HAVE MONITORING PLAN (LT2). MAJOR-NON-HEALTH -BASED | 07/01/2016 - 08/11/2016 | N/A | N/A | N/A |
| LEAD & COPPER RULE | LEAD CONSUMER NOTICE (LCR) - NON-HEALTH-BASED | 12/31/2016-Open | N/A | N/A | N/A |
| E.COLI | MONITORING, SOURCE (LT2), MAJOR-NON-HEALTH-BASED | 10/01/2016 - 10/31/2016 | N/A | N/A | N/A |
| CHLORINE/ CHLORAMINE | RESIDUAL DISINFECTANT CONCENTRATION (SWTR) HEALTH BASED | 05/01/2016 - 10/31/2016 | 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. These symptoms are not only caused by only by organisms in the water, but also by other factors | N/A | N/A |
| MONITORING PLAN | MONITORING PLAN RULE-FAILURE TO HAVE MONITORING PLAN (DBP) - NON-HEALTH-BASED | 6/22/16 -Open | N/A | N/A | N/A |
| CONSUMER CONFIDENCE RULE | CCR REPORT - NON - HEALTH - BASED | 7/1/2016 to 8/11/16 | N/A | N/A | N/A |

## Additional Violation Information

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|---|
| **VOLATILE ORGANICS ROUTINE MONITORING VIOLATION**-Volatile Organic testing was completed in 2016 however samples were collected during the wrong quarter. Genoa will be collecting VOC's this year in the 3rd quarter. |
| **PUBLIC NOTICE RULE. LINKED TO VIOLATION - NON - HEALTH - BASED -**The system has since installed Department approved filtration/disinfection in its Harmsco Filter housings. Public notice was required to be sent by July 22, 2016 but was not distributed until September 19, 2016. |
| **LT2ESWTR-FAILURE TO HAVE AN LT2 MONITORING PLAN**. The Town of Genoa has submitted it's LT2 Plan on 8/25/2016. E.Coli monitoring is now back in compliance as of May 2017. The Town of Genoa has hired a new Water Operator on **5/8/2017** who is working diligently on returning the system to compliance and is in close communication with the Water Quality Control Division. |
| **LEAD & COPPER RULE - LEAD CONSUMER NOTICE (LCR)** - Lead Consumer Notices were mailed to participants in the Lead & Copper monitoring Program on 5/27/2017. |
| **E.COLI - MONITORING SOURCE WATER (LT2) -** The original prescribed start date for LT2 monitoring was in October of last year. The Town of Genoa hired a Water Operator on 5/8/2017 and Source Water Monitoring for E. Coli began on 5/8/2017 and is now back in compliance. |
| **CHLORINE/CHLORAMINE - RES DISINFECT CONCENTRATION (SWTR) HEALTH BASED.-**The Towns new Water Operator is working with Town Staff and maintenance personnel to correctly dose and monitor chlorine residual levels at the entry level to the system and measurements in the distribution system. The system will be compliant in the month of June 2017. September |
| **CONSUMER CONFIDENCE RULE -** The Town of Genoa did not distribute a CCR to the community last year. A 2017 CCR for compliance year 2016 is complete and Genoa will be back in compliance with the CCR Rule. |
| **MONITORING PLAN RULE -** The Town of Genoa has hired a Water Operator who is diligently working on a new Drinking Water Monitoring Plan. Estimated time of completion - 8/15/2017 |

**Significant Deficiencies**

| Date Identified | Deficiency Description | Steps Taking to Correct and Progress To Date | Estimated Completion Date |
|---|---|---|---|
| 5/24/2016 | **T120 - FILTRATION PROCESS-** Surface water or ground water under the direct influence of surface water (GWUDI) sources without adequate filtration processes. Regulation 11, sections 11.8(1)(b)(ii) | The system has since installed Department approved filtration/disinfection in its Harmsco Filter housings. Public notice was required to be sent by July 22, 2016 but was not distributed until September 19, 2016. | Filter upgrades 10/1/2016 Public Notice 9/19/2016 |
| 5/24/2016 | **T119 - PROPER OPERATION;** Surface water or ground water under the direct influence of surface water treatment operational practices, Regulation 11, Section 11.8(1)(b) and CDPHE-WQCD Policy 4. | A certified Water Treatment Operator meeting regulation 11 was contracted and is now operating the system. Filter change out logs and protocols have been implemented. In addition, a new yard hydrant was installed as a new "Point of Entry" sampling point. | 6/2/2017 |