



2020
DRINKING WATER
QUALITY REPORT FOR
THE CITY OF DENISON

Contact Information:
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(903) 464-4480

This report is provided in response to the 1996 Safe Drinking Water Act amendments and specifically, USEPA's Consumer Confidence Rule, which became effective September 19, 1998.

HOW IS WATER TREATED?

The City of Denison uses the latest techniques and equipment to consistently produce superior quality drinking water. Utilizing conventional treatment processes, we produce an average of four to ten million gallons of water per day for our customers. The process is divided into four separate steps to achieve the desired quality product mandated by the TCEQ and USEPA. Coagulation, sedimentation, filtration, and disinfection are considered the treatment of choice for surface water in the United States. Coagulation is chemically and mechanically changing the raw water to remove the majority of larger solids. In settling the water, the finer particles have time to be removed before continuing to filtration to remove microscopic particles. Disinfection is done with chloramine compounds before leaving the water plant and entering the distribution system. The water is sampled and tested throughout the treatment process. Sampling is performed to make sure the processes are working and that the water is safe before it leaves the plant. The City of Denison is required to test 25 sites per month in the distribution system and reports results to TCEQ and USEPA. All employees involved in treating, collecting samples, and making repairs to the distribution system are certified by TCEQ through training and testing.

SECONDARY CONSTITUENTS

Many constituents (such as calcium, sodium, or iron) which are often found in drinking water can cause taste, color, and odor problems. The taste and odor constituents are called secondary constituents and regulated by the State of Texas, not EPA. These constituents are not causes for health concern. Therefore, secondary standards are not required to be reported in this document, but they may greatly affect the appearance and taste of your water.

TCEQ 290.272 (c)(5) UNREGULATED CONTAMINATES

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. We participated in gathering data under the Unregulated Contaminates Monitoring Rule and if any unregulated contaminants were detected they are shown in the tables elsewhere in the report.

DEFINITIONS

NTU – Nephelometric Turbidity Units. This is the unit used to measure water turbidity.

MCLG – Maximum Contaminant Level Goal. The level of a contaminant in drinking water below which there is no known or expected health risk. MCLG's allow for a margin of safety.

MCL – Maximum Contaminant Level. The highest permissible level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.

MRDLG - Maximum Residual Disinfection Level Goal The level of a drinking water disinfectant below which there is no known or expected risk of health. MRDLGs do not reflect the benefits of 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.

AL – Action Level the concentration of a contaminant which, if exceeded, trigger treatment or other requirements that a water system must follow.

TURBIDITY – A measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

TT - TREATMENT TECHNIQUE – A required process intended to reduce the level of a contaminant in drinking water.

ppm – Parts per million. One part per million equal's one packet of artificial sweetener sprinkled into 250 gallons of iced tea.

ppb–Parts per billion. One part per billion is equal to one packet of artificial sweetener added to an Olympic size swimming pool.

pci/L – Picocuries per liter is a measure of radioactivity in water.

NOTICE TO AT-RISK POPULATIONS

Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-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. EPA/ Centers for Disease Control and Prevention (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).

PUBLIC PARTICIPATION OPPORTUNITIES

A public meeting with the City of Denison's water treatment personnel will be held to answer any questions and respond to comments water customers may have.

DATE: JULY 06, 2021

TIME: 10:00 AM

LOCATION: 4631 RANDELL LAKE ROAD

PHONE NO: (903) 464-4480

OUR DRINKING WATER MEETS OR EXCEEDS ALL EPA DRINKING WATER REQUIREMENTS

This report is a summary of the quality of the water we provide our customers. The analysis was made by using data from the most recent EPA required tests and is presented in the attached pages. We hope this information helps you become more knowledgeable about what is in your drinking water.

WATER SOURCES

The sources of drinking water (both tap water and bottled) include river, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the land's surface 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 in untreated water include microbes, inorganic contaminants, pesticides, herbicides, organic chemical contaminants, and radioactive contaminants.

WHERE DO WE GET OUR WATER?

Most of the water we treat is from city-owned Lake Randell, located to the northwest of Denison between US 75 and Lake Texoma. The supply for Lake Randell is supplemented by water transferred from Lake Texoma. All our customers are served by surface water from these two lakes. TCEQ completed an assessment of our source water and results indicate that some of the sources are susceptible to certain contaminants. The sampling requirements for our water system are based on this susceptibility and previous sample data. Any detection of those contaminants will be found in this report. For more information on source water assessments and protection efforts at our system, please contact us.

ALL DRINKING WATER MAY CONTAIN CONTAMINANTS

When drinking water meets federal standards there may not be any health-related benefits to purchasing bottled water or point of use devices. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects may be obtained by calling USEPA's Safe Drinking Water Hotline (1-800-426-4791).

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. We are responsible for providing high quality drinking water, but we 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 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/safewater/lead>.

WATER LOSS AUDIT

In the water loss audit submitted to the Texas Water Development Board for the time period of Jan.-Dec. 2020, our system lost an estimated 209,731,072 gallons of water. If you have any questions about the water loss audit, please call. 903-464-4480.

INORGANIC

| YEAR | CONTAMINANT | AVERAGE LEVEL | MIN. LEVEL | MAX. LEVEL | MCL | MCL/G | UNIT OF MEASURE | SOURCE OF CONTAMINANT |
|--------|-------------------------|---------------|------------|------------|-----|-------|-----------------|--|
| 2020 | Barium | 0.066 | 0.066 | 0.066 | 2 | 2 | ppm | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits. |
| 2020 | Fluoride | 0.436 | 0.436 | 0.436 | 4 | 4 | ppm | Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories. |
| 2020 | Nitrate | 0.11 | 0.11 | 0.11 | 10 | 10 | ppm | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits. |
| 2017** | Combined Radium 226/228 | 1.5 | 1.5 | 1.5 | 5 | 0 | pCi/L | Erosion of natural deposits. |
| 2020 | Beta/photon Emitters | 5.1 | 5.1 | 5.1 | 50 | 0 | pCi/L* | Decay of natural and man-made deposits. |

*EPA considers 50 pCi/L to be the level of concern for beta particles. **The data presented are from the most recent testing performed in accordance with drinking water regulations.

TOTAL ORGANIC CARBON (SOURCE WATER)

| YEAR | CONTAMINANT | AVERAGE LEVEL | MIN. LEVEL | MAX. LEVEL | UNITS OF MEASURE | SOURCE OF CONTAMINANT |
|------|-------------|---------------|------------|------------|------------------|---|
| 2020 | TOC | 5.06 | 4.50 | 6.28 | ppm | Naturally occurring organic (No associated adverse health effects). |

DISINFECTION BYPRODUCTS

| YEAR | CONTAMINANT | AVERAGE LEVEL * | MIN. LEVEL | MAX. LEVEL | MCL | MCLG | UNITS OF MEASURE | SOURCE OF CONTAMINANT |
|------|------------------------------|-----------------|------------|------------|-----|-----------------------|------------------|--|
| 2020 | Haloacetic Acids (HAA5) | 17 | 10.90 | 23.0 | 60 | No goal for the total | ppb | By-product of drinking water disinfection. |
| 2020 | Total Trihalomethanes (TTHM) | 15 | 9.84 | 22.3 | 80 | No goal for the total | ppb | By-product of drinking water chlorination. |
| 2020 | Chlorite | 0.55 | 0.275 | 0.70 | 1.0 | 0.8 | ppm | By-product of drinking water disinfection. |

*The value in the Highest Level or Average Detected column is the highest average of all TTHM sample results collected at a location over a year

*The value in the Highest Level or Average Detected column is the highest average of all HAA5 sample results collected at a location over a year

DISINFECTION RESIDUALS

| YEAR | CONSTITUENT | ANNUAL AVERAGE | RANGE OF DETECTION | MRDL | MRDLG | UNITS OF MEASURE | SOURCE OF CONSTITUENT |
|------|-------------|----------------|--------------------|------|-------|------------------|--|
| 2020 | Chloramines | 3.6 | 0.5 – 4.0 | 4 | 4 | ppm | Disinfectant used to control microbes. |

LEAD AND COPPER

| YEAR | CONTAMINANT | THE 90th PERCENTILE | SITES EXCEEDING ACTION LEVEL | ACTION LEVEL | UNITS OF MEASURE | SOURCE OF CONTAMINANT |
|--------|-------------|---------------------|------------------------------|--------------|------------------|---|
| 2019** | Lead | < 0.001 | 0 | 0.015 | ppm | Corrosion of household plumbing systems; Erosion of natural deposits. |
| 2019** | Copper | 0.011 | 0 | 1.3 | ppm | Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives. |

**The data presented are from the most recent testing performed in accordance with drinking water regulations.

TURBIDITY

| YEAR | CONTAMINANT | Level Detected | Limit (Treatment Technique) | SOURCE OF CONTAMINANT |
|------|--------------------------------|----------------|-----------------------------|-----------------------|
| 2020 | Highest Single Measurement | 0.22 NTU | 1 NTU | Soil runoff. |
| 2020 | Lowest Monthly % meeting limit | 100% | 0.3 NTU | Soil runoff. |

Information Statement: Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration system and disinfectants.

SECONDARY AND OTHER NOT REGULATED CONSTITUENTS (No associated adverse health effects)

| YEAR | CONSTITUENT | AVERAGE LEVEL | MIN. LEVEL | MAX. LEVEL | LIMIT | UNITS OF MEASURE | SOURCE OF CONSTITUENT |
|------|---------------------------------------|---------------|------------|------------|-------|------------------|--|
| 2020 | Bicarbonate | 120 | 120 | 120 | NA | ppm | Corrosion of carbonate rocks such as limestone. |
| 2020 | Calcium | 57.8 | 57.8 | 57.8 | NA | ppm | Abundant naturally occurring element. |
| 2020 | Chloride | 115 | 115 | 115 | 300 | ppm | Abundant naturally occurring element; used in water purification; byproduct of oil field activity. |
| 2020 | Iron | < 0.05 | < 0.05 | < 0.05 | 0.3 | ppm | Erosion of natural deposits; iron or steel water delivery equipment of facilities. |
| 2020 | Magnesium | 14.4 | 14.4 | 14.4 | NA | ppm | Abundant naturally occurring element. |
| 2020 | pH | 8.0 | 7.8 | 8.1 | NA | units | Measure of corrosiveness of water. |
| 2020 | Sodium | 81.9 | 81.9 | 81.9 | NA | ppm | Erosion of natural deposits; byproduct of oil field activity. |
| 2020 | Sulfate | 99.3 | 99.3 | 99.3 | 300 | ppm | Naturally occurring; common industrial byproduct; byproduct of oil field activity. |
| 2020 | Total Alkalinity as CaCO ₃ | 126 | 126 | 126 | NA | ppm | Naturally occurring soluble mineral salts. |
| 2020 | Total Dissolved Solids | 451 | 451 | 451 | 1000 | ppm | Total dissolved mineral constituents in water. |
| 2020 | Total Hardness as CaCO ₃ | 228 | 228 | 228 | NA | ppm | Naturally occurring calcium. |
| 2020 | Cyanide | 0.0822 | 0.0822 | 0.0822 | 0.2 | ppm | Many of the cyanides in soil and water come from industrial processes. |
| 2020 | Chromium | 0.0015 | 0.0015 | 0.0015 | 0.10 | ppm | occurs naturally in the environment from the erosion of natural chromium deposits. |
| 2020 | Manganese | 0.034 | 0.034 | 0.034 | 0.05 | ppm | Manganese is a mineral that naturally occurs in rocks and soil. |

SOURCE WATER SUSCEPTIBILITY ASSESSMENT RESULTS

| System Susceptibility Summary | | | | | | | | | | | |
|-------------------------------|---------|--------|-----------|----------|---------------|-----------------------------|------------------------|----------------------------|--------------------------------------|-------|--|
| Asbestos | Cyanide | Metals | Microbial | Minerals | Radiochemical | Synthetic Organic Chemicals | Disinfection Byproduct | Volatile Organic Chemicals | Drinking Water Contaminant Candidate | Other | |
| Low | Low | High | Medium | High | High | High | Medium | High | High | Med. | |

| Entry Point Susceptibility Summary | | | | | | | | | | | |
|------------------------------------|----------|---------|--------|-----------|----------|---------------|-----------------------------|------------------------|----------------------------|--------------------------------------|-------|
| Entry Point ID | Asbestos | Cyanide | Metals | Microbial | Minerals | Radiochemical | Synthetic Organic Chemicals | Disinfection Byproduct | Volatile Organic Chemicals | Drinking Water Contaminant Candidate | Other |
| 001 | Low | Low | High | High | High | High | High | Medium | High | High | Med. |