# *Nephi City*
# *Annual Drinking Water Quality Report*

We're pleased to present to you this year's Annual Drinking Water Quality Report. This report is designed to inform you about the quality of the water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water. Our water sources have been determined to be from groundwater. Our sources are springs referred to as Bradley, Lower Bradley and Marsh Canyon. We also have two wells: Jones Well and Equipment Shed Well.

The Drinking Water Source Protection Plan for Nephi City is available for your review. It contains information about source protection zones, potential contamination sources and management strategies to protect our drinking water. Our sources have been determined to have a low to medium level of susceptibility from potential contamination from sources such as roads, agriculture, and industrial. We have also developed management strategies to further protect our sources from contamination. Please contact us if you have questions or concerns about our source protection plan.

Cross Connection Education:
There are many connections to our water distribution system. When connections are properly installed and maintained, the concerns are very minimal. However, unapproved and improper piping changes or connections can adversely affect not only the availability, but also the quality of the water. A cross connection may let polluted water or even chemicals mingle into the water supply system when not properly protected. This not only compromises the water quality but can also affect your health. So, what can you do? Do not make or allow improper connections at your homes. Even that unprotected garden hose lying in the puddle next to the driveway is a cross connection. The unprotected lawn sprinkler system after you have fertilized or sprayed is also a cross connection. When the cross connection is allowed to exist at your home, it will affect you and your family first. If you'd like to learn more about helping to protect the quality of our water, call us for further information about ways you can help.

**I'm pleased to report that our drinking water meets federal and state requirements.** This report shows our water quality and what it means to you our customer. If you have any questions about this report or concerning your water utility, please contact Nephi City Water Department at (435) 623-0822. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the 1st and 3rd Tuesday of each month at 7:30 pm.

Nephi City routinely monitors for constituents in our drinking water in accordance with the

Federal and Utah State laws. The following table shows the results of our monitoring for the period of January 1st to December 31St, 2019. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

In the following table you will find many terms and abbreviations you might not be familiar with. To help you better understand these teens we've provided the following definitions:

***Non Detects (ND) -*** laboratory analysis indicates that the constituent is not present.
***ND/Low - High -*** For water systems that have multiple sources of water, the Utah Division of Drinking Water has given water systems the option of listing the test results of the constituents in one table, instead of multiple tables. To accomplish this, the lowest and highest values detected in the multiple sources are recorded in the same space in the report table.
***Parts per million (ppm) or Milligrams per liter (mg/1) -*** one part per million corresponds to one minute in two years or a single penny in $10,000.
***Parts per billion (ppb) or Micrograms per liter (ug/l) -*** one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.
***Parts per trillion (ppt) or Nanograms*** *per* ***liter (nanograms/l) -*** one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in $10,000,000,000.
***Picocuries per liter (pCi/L)*** - picocuries per liter is a measure of the radioactivity in water.
***Nephelometric Turbidity Unit*** *(NTU)* - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
***Action Level*** *(AL)* the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
***Maximum Contaminant Level*** *(MCL)* - The "Maximum Allowed" (MCL) is 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.
***Maximum Contaminant Level Goal*** *(MCLG)* - The "Goal"(MCLG) is 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 (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.
***Date-*** Because of required sampling time frames i.e. yearly, 3 years, 4 years and 6 years, sampling dates may seem outdated.
***Waivers*** *(W)*- Because some chemicals are not used or stored in areas around drinking water sources, some water systems have been given waivers that exempt them from having to take certain chemical samples, these waivers are also tied to Drinking Water Source Protection Plans.

| TEST RESULTS | | | | | | | |
|---|---|---|---|---|---|---|---|
| Contaminant | Violation Y/N | Level Detected ND/Low High | Unit Measurement | MCLG | MCL | Date Sampled | Likely Source of Contamination |
| **Microbiological Contaminants** | | | | | | | |
| Total Coliform Bacteria | N | 0 | N/A | 0 | Presence of coliform bacteria in 5% of monthly samples | 2019 | Naturally present in the environment |
| Fecal coliform and E. coli *E.coli* | N | 0 | N/A | 0 | If a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or *E. coli* positive | 2019 | Human and animal fecal waste |
| **Radioactive Contaminants** | | | | | | | |
| Alpha emitters | N | 0.8-1.0 | pCi/1 | 0 | 15 | 2019 | Erosion of natural deposits |
| Combined radium | N | | pCi/1 | 0 | 5 | 2009 | Erosion of natural deposits |
| Radium 228 | N | .19 | pCi/1 | 0 | 5 | 2019 | Erosion of natural deposits |
| **Inorganic Contaminants** | | | | | | | |
| Arsenic | N | 0.6 | ppb | 0 | 10 | 2018 | Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes |
| Barium | N | 36 - 94 | ppb | 2,000 | 2,000 | 2018 | Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits |
| Copper<br>a. 90% results<br>b. # of sites that exceed the AL | N | a. 161<br><br>b.0 | Ppb | 1300 | AL=1300 | 2018 | Corrosion of household plumbing systems; erosion of natural deposits |
| Cyanide | N | ND - 2.4 | ppb | 200 | 200 | 2018 | Discharge from plastic and fertilizer factories; Discharge from steel/metal factories. |
| Fluoride | N | 100 | ppb | 4000 | 4000 | 2018 | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories |
| Lead<br>a. 90% results<br>b. # of sites that exceed the AL | N | a. 3.8<br><br>b.0 | ppb | 0 | AL=15 | 2018 | Corrosion of household plumbing systems, erosion of natural deposits |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Nitrate (as Nitrogen) | N | 0.2-2.8 | ppm | 10000 | 10000 | 2019 | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits |
| Selenium | N | 1.2 - 16 | ppb | 50 | 50 | 2018 | Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines |
| Sulfate | N | 31 -115 | ppm | 1000* | 1000* | 2018 | Erosion of natural deposits; discharge from refineries and factories; runoff from landfills, runoff from cropland |
| TDS (Total Dissolved solids) | N | 248 - 1020 | ppm | 2000** | 2000** | 2018 | Erosion of natural deposits |

*If the sulfate level of a public water system is greater than 500 ppm, the supplier must satisfactorily demonstrate that: a) no better water is available, and b) the water shall not be available for human consumption from commercial establishments. In no case shall water having a level above 1000 ppm be used.
**If TDS is greater than 1000 ppm the supplier shall demonstrate to the Utah Drinking Water Board that no better water is available. The Board shall not allow the use of an inferior source of water if a better source is available.

## Disinfection By-products

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| TTHM [Total trihalomethanes] | N | 9.2 | ppb | 0 | 80 | 2019 | By-product of drinking water disinfection |
| Haloacetic Acids | N | 2.3 | ppb | 0 | 60,000 | 2019 | By-product of drinking water disinfection |

**Microbiological Contaminants:**

**Total Coliform.** Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.

**Fecal coliform/E.Coli.** Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.

**Turbidity.** Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

**Radioactive Contaminants:**

**Alpha emitters.** Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

**Beta emitters.** Certain minerals are radioactive and may emit a form of radiation known as beta radiation. Some people who drink water containing beta emitters in excess of the 1VICL over many years may have an increased risk of getting cancer.

**Combined Radium** 226/228. Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer. **Inorganic**

**Contaminants:**
**Arsenic.** Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.
**Barium.** Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
**Copper.** Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.
**Cyanide.** Some people who drink water containing cyanide well in excess of the MCL over many years could experience nerve damage or problems with their thyroid.
**Fluoride.** Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.
**Lead.** Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.
**Nitrate.** Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.
**Selenium.** Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation.
**Sulfate.** High levels of sulfates in the drinking water may cause some people to have stomach problems.
**TDS (Total Dissolved Solids)**. TDS is an aesthetic water quality problem, however high levels may cause some people to experience health problems.

**Volatile Organic Contaminants:**
**TTHMs** [Total Trihalomethanes]. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

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.

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. Nephi City 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 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.

As you can see by the table, our system had no violations. We're proud that your drinking water meets or exceeds all Federal and State requirements. We have learned through our monitoring and testing that some constituents have been detected. The EPA has determined that your water IS SAFE at these levels.

All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or man made. Those constituents can be microbes, organic or inorganic chemicals, or radioactive materials. 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 at 1-800-426-4791.

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

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. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

We at Nephi City work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.

Nephi City
21 E. 100 N.
Nephi, Utah 84648

Brandi Smith
CCR Compliance
Division of Drinking Water
P.O. Box 144830
Salt Lake City, Utah 84114-4830

Dear Mrs. Smith:

Subject: Consumer Confidence Report for Nephi City- #12003

Enclosed is a copy of Nephi City's Consumer Confidence Report. It contains the water quality information for our water system for the calendar year 2019 or the most recent sample data.

We have delivered this report to our customers by:

Publishing the entire report in the local newspaper and sending a copy to those that request a copy and allowing inspection of the report at the water system office.

If you have any questions, please contact me at (435) 623-0822.

Sincerely,

Justin Blackett
Nephi City Water Department