

# GOLDFIELD TOWN WATER

## Consumer Confidence Report – 2021

### Covering Calendar Year – 2020

This brochure is a snapshot of the quality of the water that we provided last year. Included are the details about where your water comes from, what it contains, and how it compares to Environmental Protection Agency (EPA) and state standards. We are committed to providing you with information because informed customers are our best allies. It is important that customers be aware of the efforts that are continually being made to improve their water systems. To learn more, please attend any of the regularly scheduled meetings. **For more information, please contact Michael Anderson at 775-485-3483.**

Your water comes from:

Source Name	Source Water Type
Klondike #1 Well	Ground Water
Klondike #2 Well	Ground Water

We treat your water to remove several contaminants and we add disinfectant to protect you against microbial contaminants. The Safe Drinking Water Act (SDWA) requires states to develop a Source Water Assessment (SWA) for each public water supply that treats and distributes raw source water in order to identify potential contamination sources. The state has completed an assessment of our source water. For results of the source water assessment, please contact us.

#### [Message from EPA](#)

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as those 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 microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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 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 water) included 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 before we treat it include:

*Microbial contaminants*, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

*Inorganic contaminants*, such as salts and metals, 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 storm water run-off, agriculture, and residential users.

*Radioactive contaminants*, can be naturally occurring or the result of mining activity

*Organic contaminants*, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, may also come from gas stations, urban storm water run-off, and septic systems.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the number of certain contaminants in water provided by public water systems. We treat our water according to EPA's regulations. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Our water system tested a minimum of 1 sample per month in accordance with the Total Coliform Rule for microbiological contaminants. Coliform bacteria are usually harmless, but their presences in water can be an indication of disease-causing bacteria. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If this limit is exceeded, the water supplier must notify the public by newspaper, television or radio.

#### [Water Quality Data](#)

The following tables list all of the drinking water contaminants that were detected during the 2020 calendar year. The presence of these contaminants does not necessarily indicate that the water poses a health risk. Unless noted, the data presented in this table is from testing done January 1 – December 31, 2020. The state 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. Some of the data, though representative of the water quality, is more than one year old.

## Terms & Abbreviations

**Maximum Contaminant Level Goal (MCLG):** the “Goal” is the level of a contaminant in drinking water below which there is no known or expected risk to human health. MCLG’s allow for a margin of safety.

**Maximum Contaminant Level (MCL):** the “Maximum Allowed” MCL is the highest 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.

**Action Level (AL):** the concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

**Treatment Technique (TT):** a treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

**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 Residual Disinfectant Level Goal (MRDLG):** the level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG’s do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**Non-Detects (ND):** laboratory analysis indicates that the constituent is not present.

**Parts per Million (ppm)** or milligrams per liter (mg/l)

**Parts per Billion (ppb)** or micrograms per liter (µg/l)

**Picocuries per Liter (pCi/L):** picocuries per liter is a measure of the radioactivity in water.

**Millirems per Year (mrem/yr):** measure of radiation absorbed by the body.

**Million Fibers per Liter (MFL):** million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

**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.

## Testing Results for GOLDFIELD TOWN WATER

Microbiological	Sample Frequency	Specific Collection Date	Result	MCL	MCLG	Typical Source
COLIFORM (TCR)	Monthly	3/9/2021	In the month of March, 1 sample(s) returned as positive	Treatment Technique Trigger	0	Naturally present in the environment

Lead and Copper	Sample Frequency	Collection Date	Highest Result	Range	Unit	MCL	Sites Exceeding MCL	Typical Source
COPPER	Every 9 years	9/20/17	0.033	0.007 – 0.033	ppm	1	0	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives.
LEAD			0.012	<0.001 – 0.012	ppm	0.015	0	

Regulated Contaminants	Sample Frequency	Specific Collection Date	Highest Result	Range	Unit	MCL	MCLG	Typical Source
ARSENIC (See text below) *	Quarterly (Jan – Jul) Monthly (Aug – Dec)	5/6/2020	42.1	0.00 - 42.1	ppb	10	0	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
BARIUM	Every 9 years	9/20/2017	0.026	N/A	ppm	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
CHROMIUM	Every 9 years		3	N/A	ppb	100	100	Discharge from steel and pulp mills; Erosion of natural deposits.
FLUORIDE	Every 3 years	6/5/2019	0.52	N/A	ppm	2	4	Natural deposits; Water additive which promotes strong teeth.
NITRATE	Yearly	5/6/2020	1.21	N/A	ppm	10	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

Radionuclides	Sample Frequency	Collection Date	Result	Unit	MCL	MCLG	Typical Source
COMBINED URANIUM	Every 6 years	5/24/2018	5	µg/L	30	0	Erosion of natural deposits
GROSS ALPHA, INCL. RADON & U			4.6	pCi/L	15	0	Decay of natural and man-made deposits
GROSS BETA PARTICLE ACTIVITY			10.2	pCi/L	50	0	Decay of natural and man-made deposits

Secondary Contaminants	Sample Frequency	Collection Date	Result	Unit	SMCL	MCLG
ALUMINUM	Every 3 Years	6/5/2019	0.0046	mg/L	0.2	
CHLORIDE			108	mg/L	400	
COLOR			1	CU	15	
IRON			0.0453	mg/L	0.6	
MAGNESIUM			5.62	mg/L	150	
PH			6.51	PH	8.5	
SODIUM			91.4	mg/L	200	20
SULFATE			98.4	mg/L	500	
TDS			416	mg/L	1000	
ZINC			0.0102	mg/L	5	

## Health Information About Water Quality

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.

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.

While your drinking water meets 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.

Your water meets the EPA's standard for lead. If present at elevated levels, this contaminant 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. Your Water System 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 drinking 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>.

## Violations

During the 2020 calendar year, GOLDFIELD TOWN WATER is required to include an explanation of the violation(s) in the table below and the steps taken to resolve the violation(s) with this report.

Type	Category	Analyte	Compliance Period
MCL, AVERAGE	MCL	ARSENIC	QUARTER 2 - 4/1/2020 - 6/30/2020
MCL, AVERAGE	MCL	ARSENIC	QUARTER 3 - 7/1/2020 - 9/30/2020
MCL, AVERAGE	MCL	ARSENIC	QUARTER 4 - 10/1/2020 - 12/31/2020

## What happened? What is being done? When will the problem be corrected?

**Goldfield Town Water** has suffered from water quality issues in the first half of 2020. Water samples are regularly taken from the arsenic treatment plant and tested by Silver State Analytical Laboratories for arsenic as part of **Goldfield Town Water's** regular quarterly/monthly testing to maintain compliance with the EPA's National Primary Drinking Water Regulations. While **Goldfield Town Water** conducts water quality monitoring for arsenic at a greater frequency than quarterly, the test results within each quarter are used to calculate a quarterly average, which is used to calculate a Running Annual Average (RAA) that determines **Goldfield Town Water's** compliance with the EPA's National Primary Drinking Water Regulations for arsenic. This calculation is shown in the table under Arsenic Running Annual Average (RAA). The Maximum Contaminant Level (MCL) for arsenic in public water systems as of January 23, 2006 is 0.010 mg/L or Parts Per Million (ppm), or 10 µg/L or Parts Per Billion (ppb) (United States Environmental Protection Agency, 2020). The samples taken and tested in January, March, and May of 2020 contained arsenic levels that exceeded the MCL of 10 ppb: 19.1 ppb, 13.8 ppb, and 42.1 ppb, respectively. **Goldfield Town Water** believes the failure of the static mixer (used for mixing the treatment chemicals as they're injected into the influent) and the ageing filter media used in the treatment process account for these arsenic MCL exceedances. In response, **Goldfield Town Water** replaced the static mixer and the filter media. The filter media and gravel in all three filters were replaced in June of 2020, and the new filter media was "activated" with thorough

chlorination using Calcium Hypochlorite ( $\text{Ca}(\text{ClO})_2$ ) throughout June, July, and August of 2020. Water samples tested since these measures were taken have not exceeded the arsenic MCL.

Following the aforementioned measures, **Goldfield Town Water** had Layne Christensen, the manufacturer of the treatment plant system utilized by **Goldfield Town Water**, physically inspect and review the arsenic treatment plant in September 2020, and resolve programming issues with the arsenic treatment plant regarding the backwash sequence and automatic sludge pump operation. Additionally, on September 23, 2020, **Goldfield Town Water** replaced its Sodium Hypochlorite ( $\text{NaOCl}$ ) pump with a new peristaltic style pump that resolved the issues that the old  $\text{NaOCl}$  pump had with losing prime, adding further reliability and consistency to the treatment and arsenic removal process.



### **Arsenic Running Annual Average (RAA)**

As stated above, **Goldfield Town Water's** compliance with the EPA's National Primary Drinking Water Regulations for arsenic is based on a Running Annual Average (RAA). RAA is defined in the following Nevada Administrative Code statute:

**NAC 445A.454 Primary standards: Monitoring and analysis.** (NRS 445A.855, 445A.860, 445A.863)

4. As used in this section:

(b) "Running annual average" means the sum of the consecutive 12-month contaminant sample values divided by the total number of samples taken at one sample point. (Example:  $(\sum x_1 + x_2 + \dots + x_n)/n =$  running annual average.)

Because **Goldfield Town Water** currently conducts water quality monitoring to maintain compliance with the EPA's National Primary Drinking Water Regulations for arsenic on a monthly basis, but its compliance has previously been conducted on a quarterly basis, the monthly test results within each quarter are used to calculate a quarterly average, which is used to calculate an RAA. Following the formula above, the RAA is calculated by taking the average of the quarterly averages ( $x_{1-4}$  in this case) for the most recent consecutive four quarters. This is done to maintain the consistency of the RAA calculation between periods where compliance frequency changes from quarterly to monthly or vice versa.

**As noted in the Violations section above, Goldfield Town Water has failed to maintain compliance with the EPA's National Primary Drinking Water Regulations for arsenic during Quarters 2, 3, and 4 of 2020, as the RAA calculated for each of these quarters exceeds the MCL for arsenic of 10 micrograms per liter (ug/L).**

A table (Table 1) breaking down the sample dates, arsenic analytical report results, quarterly averages of the arsenic analytical report results, and each quarter's arsenic RAA from 2017 through 2020 is shown below.

**Table 1 – GOLDFIELD TOWN WATER (NV0000072) - Arsenic Running Annual Average (RAA)**

<b>Year</b>	<b>Quarter</b>	<b>Date Sample Taken</b>	<b>Arsenic Analytical Report Result (µg/L)</b>	<b>Quarterly Average of Arsenic Analytical Report Results (µg/L)</b>	<b>Arsenic Running Annual Average (RAA) (µg/L)</b>
2020	4	12/8/2020	2.86	5.49	15.94
		11/9/2020	3.64		
		10/7/2020	9.98		
	3	9/9/2020	5.36	5.18	15.29
		8/5/2020	5.00		
	2	5/6/2020	42.10	42.10	17.64
	1	3/9/2020	13.80	10.97	8.46
		2/5/2020	0.00		
		1/8/2020	19.10		
2019	4	12/9/2019	1.82	2.90	9.23
		11/6/2019	3.89		
		10/8/2019	3.00		
	3	9/5/2019	14.00	14.61	13.98
		8/14/2019	24.10		
		7/29/2019	5.72		
	2	6/5/2019	5.36	5.35	13.58
		5/29/2019	5.33		
	1	3/20/2019	6.18	14.07	14.49
3/17/2019		7.53			
1/25/2019		28.50			
2018	4	12/28/2018	21.90	21.90	12.73
	3	9/27/2018	13.00	13.00	9.25
	2	5/24/2018	9.00	9.00	8.75
	1	2/22/2018	7.00	7.00	7.75
2017	4	10/4/2017	8.00	8.00	8.00
	3	8/8/2017	11.00	11.00	
	2	5/25/2017	5.00	5.00	
	1	2/23/2017	8.00	8.00	