



2022 Water Quality Report

City of Santa Fe Water
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Santa Fe, NM 87504

Customer Service: (505) 955-4333
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The City of Santa Fe Water (the City) is pleased to provide the 2022 Water Quality Report for Water System NM3505126. A safe and dependable water supply is vital to our community and is the primary mission of the City. This report is provided annually and contains information on the quality of water obtained throughout the calendar year or most recent monitoring period. **In 2022 the City's drinking water met all U.S. Environmental Protection Agency (EPA) and State drinking water limits.** The quality report contains additional details about where your water comes from, what it contains, and how it compares to standards set by federal and state regulatory agencies. It also provides educational information on contaminants which may be of a concern.

Sources of Supply

The City was served by four distinct sources of supply in 2022. The 17,000 acre Santa Fe Watershed provides surface runoff to the Santa Fe River where it is stored in the McClure and Nichols Reservoir prior to treatment. Surface water from the Santa Fe River and Rio Grande is treated through conventional and advanced treatment processes at the Canyon Road Water Treatment Plant and Buckman Regional Water Treatment Plant (BRWTP) (separate Water System NM3502826), respectively. The City Well Field is located in close proximity to the Santa Fe River and consists of 6 active wells located within the City limits of Santa Fe. The Buckman Well Field consists of 13 wells located near the Rio Grande, approximately 15 miles northwest of Santa Fe. All four sources are treated with chlorine for protection of customers against disease-causing microorganisms (pathogens), including bacteria and viruses. Fluoride is added to the water supply as needed to benefit the community as recommended by public health professionals.

In 2011, the Buckman Direct Diversion (BDD) Project surface water supply was successfully integrated into the municipal distribution system and operated in conjunction with the City's pre-existing sources of supply throughout 2022. The surface water treated at the BRWTP is taken directly from the Rio Grande. **BDD not only improves sustainability for the area but also increases the City's resilience under drought conditions, replacing current groundwater pumping that cannot be sustained, and making the City's wells available as drought and emergency reserves.**

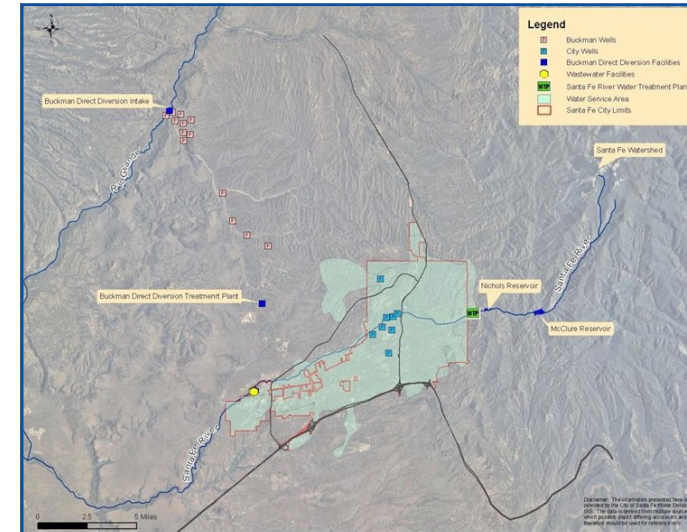
Source Water Protection Plan and its Availability

The New Mexico Environment Department (NMED) had completed a Source Water Assessment for the City of Santa Fe. Following the assessment, NMED with the City of Santa Fe drafted a Source Water Protection Plan, which includes a determination of source water protection areas of concern and an inventory of pollution sources within the areas of concern. **The susceptibility rank of the entire water system is considered "moderately low".** For further information on Source Water Protection visit Water Quality City of Santa Fe @ santafenm.gov. A copy of the Source Water Protection Plan is available by contacting the City at (505) 955-4205.

The City's "Safe Drinking Water and Source Water Protection" and the "Stormwater Illicit Discharge Control" ordinances provide additional controls and protections for the City's ground and surface water supplies. The Stormwater Program's goal is reducing pollutants discharged to the Santa Fe River. Please call the Stormwater Hotline at (505) 955-5644 to report illegal dumping in storm drains, streets and arroyos or visit Parks | City of Santa Fe @ santafenm.gov.

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/Centers for Disease Control (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).

Map of Water Sources



En Español

Este reporte contiene información importante sobre la calidad del agua en Santa Fe. Si tiene alguna pregunta o duda sobre este reporte puede hablarle a Patricio Pacheco al teléfono (505) 955-4220 o escriba a la dirección de arriba.

Contacts for Additional Information:

If you have any questions, comments, or suggestions regarding this report please contact Jonathan Montoya at (505) 955-4373 or write to the above address.



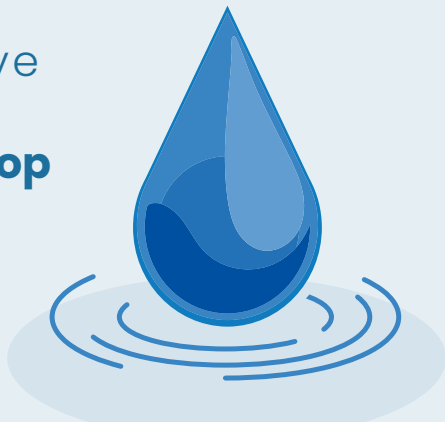
2022 City of Santa Fe Water Quality Table

The [table on page three](#) lists contaminants which:

1. have associated primary Maximum Contaminant Levels (MCLs) that are regulated and
2. were detected in testing conducted by the City and New Mexico Environment Department.

The table includes only those constituents found above detection limits during 2022 sampling, or during sampling in previous years if not analyzed during 2022. The EPA requires monitoring for certain contaminants less than once per year because the concentrations are not expected to vary significantly from year to year. The City is required to test for over 80 contaminants, and the vast majority of these contaminants were not found above detection limits. 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 can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline (800) 426-4791, or visiting epa.gov/safewater.

Conserve
Water...
every drop
counts



For information regarding the City's water conservation program, ways to conserve, and rebates, please contact the City's Water Conservation Hotline at (505) 955-4225.



Notes:

- a. City wellfield: Alto, Agua Fria, Ferguson, Osage, St. Mikes & Torreon
- b. Buckman Wells 1-13 and Northwest Well.
- c. The range represents the highest and lowest values within Compliance
- d. Period indicated, if more than one sample was collected
- e. Gross Alpha Emitters excluding Radon and Uranium
- f. EPA considers 50 pCi/L to be the level of concern for beta particles
- g. Alternative compliance criteria used to meet TOC removal requirements (running annual average of TOC removal ratio must be > 1 each month)
- h. Minimum monthly running average (RAA) of TOC removal ratio in 022. The monthly ratio must not be less than 1.0 per 40 CFR R (as per 40 CFR 141.135)

Units, Terms and Abbreviations

- NA:** Not Applicable.
- ND:** Not Detected.
- NTU:** Nephelometric Turbidity Units.
- ppm:** Parts per million, or milligrams per liter (mg/L).
- ppb:** Parts per billion, or micrograms per liter (µg/L).
- pCi/L:** Picocuries per liter (a measure of radioactivity).
- µg/L:** Number of micrograms of substance per liter of water.
- mg/L:** Number of milligrams of substance per liter of water.

(Range): The range represents the highest and lowest values. Range values are not provided if only one sample was taken during the range period.

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

Locational Running Annual Average (LRAA): The average of analytical results for samples at a particular monitoring location during the previous four calendar quarters. LRAA at each sampling location must be below the MCL (60 µg/L for Total Haloacetic Acids and 80 µg/L for Total Trihalomethanes)

Maximum Contaminant Level (MCL): 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 level of a contaminant in drinking water below which there is no known or expected health risk. 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.

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

TT: Treatment Technique: a required process intended to reduce the level of contaminant in drinking water.

City of Santa Fe 2022 Water Quality Table

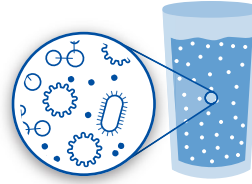
Regulated Compliance Monitoring

Contaminant	Units	MCL	MCLG	City Well Field ^a	Sample Year	10 MG Tank ^b	Sample Year	Canyon Road WTP	Sample Year	Buckman RWTP	Sample Year	Violation	Typical Source
Volatile Organic Contaminants^c													
Dichloromethane	PPB	5	0	ND	2020	0.7	2020	ND	2022	ND	2021	No	Discharge from pharmaceutical and chemical factories
Inorganic Contaminants^c													
Arsenic	PPB	10	0	1.9 (1.1-1.9)	2020	1.8	2020	ND	2022	ND	2021	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Barium	PPM	2	2	0.6 (0.2-0.6)	2020	0.03	2020	0.0046	2022	0.048	2022	No	Discharge from drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride	PPM	4	4	0.2 (ND-0.2)	2020	0.39	2020	0.1	2022	0.32	2022	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate [as N]	PPM	10	10	6.1 (0-6.1)	2022	0.0	2022	ND	2022	ND	2022	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion from natural deposits
Selenium	PPM	50	50	0.004 (ND-0.004)	2020	ND	2020	ND	2022	21	2022	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.
Radioactive Contaminants^c													
Gross Alpha Emitters ^d	pCi/L	15	0	0.9 (0.2-0.9)	2017-2020	0.9	2020	ND	2020	0.9	2021	No	Erosion of natural deposits
Gross Beta/ Photon Emitters	pCi/L	50 ^e	NA	1.4 (ND-1.4)	2017-2020	2.8	2020	ND	2020	3.9	2021	No	Decay of natural and man-made deposits
Radium 226/228	pCi/L	5	0	0.8 (0.4-0.8)	2017-2020	0.04	2020	0.08	2020	0.03	2021	No	Erosion of natural deposits
Uranium	PPB	30	0	1	2017-2020	2	2020	ND	2020	2	2021	No	Erosion of natural deposits
Surface Water Contaminants^c													
Turbidity (highest single measurement)	NTU	TT = 1.0	0	NA	NA	NA	NA	0.29	2022	0.7	2022	No	Soil Runoff
Turbidity (lowest monthly % meeting limits)	NTU	TT = % < 0.3 NTU	0	NA	NA	NA	NA	100%	2022	100%	2022	No	Soil Runoff
Total Organic Carbon (removal ratio)	NA	TT ^f	NA	NA	NA	NA	NA	1.25 ^g (1.25-1.32)	2022	NA	NA	No	Naturally present in the environment



Why are there Contaminants in my Drinking Water?

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 in drinking water may include:



Microbial contaminants: such as viruses and bacteria that 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 agriculture, urban storm-water runoff, and residential uses.



Organic chemical contaminants: including synthetic and volatile organic chemicals, are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.



Radioactive contaminants: which can be naturally occurring, man-made from nuclear facilities and atmospheric deposition from former above ground testing, or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Nitrates

City of Santa Fe drinking water meets the federal drinking water standard of 10 PPM for nitrates (10 mg/L as N). Nitrates have been detected in some of the City Wells up to 6.7 PPM. 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

Arsenic is a mineral that occurs naturally in the earth's crust. When arsenic-containing rocks dissolve and erode, they release arsenic into the groundwater. While the City's drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. 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.

Cryptosporidium

Cryptosporidium is a protozoan parasite that is common in surface waters. Ingestion of Cryptosporidium may cause cryptosporidiosis, an abdominal infection. Cryptosporidium is introduced into our source waters via wild animal populations and potentially via domestic livestock. Although the organism is readily removed by the treatment processes utilized at both the Canyon Road water treatment plant and Buckman regional plant, the oocyst, or transmission stage of the organism, is resistant to chemical disinfectants like chlorine and is the primary indicator to determine if additional treatment is required. As a result the City conducted a source water study taking one sample a month, starting in 2015 and ending in 2017 at both water treatment plants and it was determined no additional treatment was required.

Sodium

Low levels of sodium (salt) gets into your drinking water through natural processes involving rain and erosion. Sodium is a mineral necessary for normal body function. Muscles and nerves depend on sodium for function. Sodium levels for all Santa Fe entry points range from 8.5 to 33 PPM. The system-wide average is 18 PPM.

Voluntary Monitoring



For the results of additional voluntary monitoring for the Canyon Road WTP, and the BRWTP, please see the City's Water Quality page at santafenm.gov/water-quality. To view voluntary monitoring results, go to the link for "2015 Water Quality Report". Data in the report lists results from voluntary monitoring at entry points into the distribution system associated with BRWTP, and the Canyon Road WTP. Since these samples are collected at the point of entry of water into the City's distribution system, the reported concentrations of contaminants may be further diluted in the distribution system through mixing with water from other City sources.

EPA has established secondary maximum contaminant levels (SMCL) for certain contaminants. Secondary Standards are non-enforceable standards that serve as guidelines to assist public water systems in managing their drinking water. The presence of these contaminants typically results from the erosion of natural deposits. Aluminum and manganese containing materials are used as treatment aids in the water treatment process.

For the results of additional voluntary monitoring see the Buckman Direct Diversion website at bddproject.org. To view voluntary monitoring results click the "Quality" tab and then go to "Monitoring, Testing, and Reporting" followed by "Water Quality Sampling Reports."

Monitoring for LANL Derived Contaminants



In cooperation with Los Alamos National Laboratory (LANL) and the New Mexico Environment Department, the City previously monitored Buckman Wells 1, 6 and 8 for Laboratory-derived contamination on a quarterly basis. Samples were analyzed for radionuclides, general inorganic chemicals, metals, high explosives and organics. This sampling occurred during the years 2001-2021. **Laboratory-derived radionuclides were not present in the Buckman Wells 1, 6 and 8.** The results indicated detectable levels of radionuclides associated with natural sources. These wells are part of the 13 wells that make-up the Buckman Wellfield. When these wells are used, water from these wells is delivered to the 10 MG tank prior to distribution into the system.



Microbial and Disinfection Byproducts Rule

The Microbial and Disinfection Byproducts (M/DBP) Rules are a set of interrelated regulations that address risks from microbial pathogens and disinfectants/ disinfection byproducts (DBPs). The Stage 2 Disinfectants and Disinfection By-Products Rule (DBPR) focuses on public health protection by limiting exposure to BPs (known carcinogens), specifically total trihalomethanes (TTHM), five haloacetic acids (HAA5), and bromate which can form in water through disinfectants used to control microbial pathogens.

The City of Santa Fe system has eight compliance sampling locations for TTHM and HAA5. Each location is sampled once per quarter. The average of analytical results for DBPs at a given location during the previous four quarterly samples is called the locational running annual average (LRAA). The LRAA at each location must be below the MCL (60 PPB for HAA5 and 80 PPB for TTHM). Results shown in the Table below indicate that the system is in compliance.

	MCL†	MCLG†	Sample Year	Highest LRAA	Range 2021 ‡		Typical Source
Haloacetic Acids (HAA5s)	60	NA	2022	27.0	low 5.6	high 27.3	By-product of drinking water chlorination
Total Trihalomethanes (TTHMs)	80	NA	2022	60.0	low 19.0	high 75.8	By-product of drinking water chlorination

† = units are ppb(µg/L)

‡ = individual samples at all locations

Bromate monitoring is required at the entrance to the distribution system whenever ozone is used to treat drinking water. BRWTP is the only treated water source that supplies ozonated water to the City of Santa Fe. Compliance is based on the running annual average (RAA) of monthly samples collected from BRWTP finished water. The results are summarized in the table below and indicate that the levels were in compliance with bromate requirements for all of 2022.

	MCL†	MCLG†	Sample Year	Highest LRAA	Range 2021 ‡		Typical Source
Bromate§	10	0	2022	2.0	low 1.83	high 2.21	By-product of drinking water chlorination

† = units are ppb(ug/L)

§ = monitoring required at BRWTP only. Compliance value is based on running annual average (RAA) of quarterly averages of the monthly finished water results.

The Stage 2 DBPR also regulates the maximum residual for disinfectants: chlorine dioxide, free chlorine, and chloramines. The disinfectants are water additives used to control microorganisms, particularly as a residual disinfectant in distribution system pipes. The City of Santa Fe water system uses free chlorine as a disinfectant. For the year 2022, sampling was performed at 80 monitoring locations each month. The results are summarized in the table below:

	MCL†	MCLG†	Sample Year	Highest LRAA	Range 2021 ‡		Violation	Typical Source
Chlorine Residual	4	4	2022	0.5	low 0.01	high 1.26	No	Water additives used to control microbes

† = units are ppm(mg/L)

Lead and Copper Rule

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. The City of Santa Fe is working on a lead/copper service line inventory and once complete will begin removing utility lead/copper service lines to meet the requirements of the Lead and Copper Rule Revision (LCRR), effective December 16, 2021.

You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and reporting lead materials within your home plumbing to the City of Santa Fe. You can also flush your pipes for several minutes by running your tap, taking a shower, doing laundry or a load of dishes. You can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in drinking water. If you are concerned about lead in your water and wish to have your water tested, contact the City of Santa Fe at (505) 955-4373. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at epa.gov/safewater/lead. Tests for lead and copper are taken from customer taps located throughout the City once every three years. The most recent round of lead and copper testing took place in September 2021. Results for both lead and copper, summarized in the following table:

Inorganic Contaminants	MCLG†	AL*	City Water Levels (90th percentile)**	# of Sample <AL*	Sample Date	Exceeds AL*	Typical Source
Copper (ppm)	1.3	1.3	0.15	30 of 30	Sep. 2021	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems
Lead (ppb)	0	15	0.93	30 of 30	Sep. 2021	No	Corrosion of household plumbing systems; Erosion of natural deposits

† = units are ppb(µg/L)

*AL = Action Level

** Results of monitoring are used to determine the concentration at the 90th percentile (e.g., if 100 samples analyzed, the concentration at the 90th highest sample). Based on the number of samples analyzed in 2021 the 90th percentile is the 28th ranked sample for copper and lead.

