Cryptosporidium

Cryptosporidium is a protozoan parasite that is common in surface waters. The oocyst is the transmission stage of the organism. Cryptosporidium is introduced into our source waters via wild animal populations. Although the organism is readily removed by the conventional treatment process utilized at the Canyon Road Water Treatment facility and advanced treatment processes at the Buckman Direct Division (BDD) Treatment facility, the oocyst is resistant to chemical disinfectants like chlorine. Therefore, the primary reason to test for cryptosporidium is to determine if additional treatment is required. Ingestion of cryptosporidium may cause cryptosporidiosis, an abdominal infection.

In April 2007 the City began a two-year study to determine the average Cryptosporidium concentration in source water entering the Canyon Road Water Treatment facility. The sampling portion of the study was completed in March of 2009. The study was part of the requirements contained in the 2006 USEPA Long-Term Enhanced Surface Water Treatment Rule. Cryptosporidium was detected in a single untreated sample in each of the following months: December of 2007, September 2008 and October 2008. The highest 12-month consecutive mean for this study was 0.018 oocysts/L. Since the concentration is <0.075 oocysts/L, no additional treatment at the Canyon Road Water Treatment facility is necessary. The BDD, which came online in 2011, has significantly improved the long-term sustainability of the area’s water supply and increases the community’s resilience under drought conditions. Using treated surface water as our primary water source is generally protected from potential contamination.

Voluntary Monitoring

In cooperation with Los Alamos National Laboratory (LANL) and the New Mexico Environment Department, the City currently monitors Buckman Wells 1, 2, 6 and 8 for LANL derived contamination on a quarterly basis. Samples are analyzed for radionuclides, general inorganic chemicals, metals, high explosives and organics. This repeat sampling has occurred during the years 2006 – 2017 and has indicated that Laboratory-derived radionuclides are not present in the Buckman Wells 1, 2, 6 and 8. The results do indicate 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 Buckman Tank prior to distribution into the system.

Conservation Tips

The estimated average daily water use for SFCU residential customers is 70 gallons per day (gpd). While this is below the national average (100 gpd), water resources in our area are limited and any reduction in consumption helps. Below are low or no cost methods for reducing water use:

- Take short showers: a 5 minute shower uses 4 to 5 gallons of water compared to up to 50 gallons for a bath.
- Shut off water while brushing your teeth, washing your hair, and shaving to save up to 500 gallons a month.
- Use a water-efficient showerhead. They’re inexpensive, easy to install, and can save you up to 700 gallons a month.
- Wash your clothes wash and dishwasher only when they are full. You can save up to 1,500 gallons a month.
- Water plants only when necessary.
- Fix leaky toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak, remove the tank prior to distribution into the system.

Water Conservation Tips

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- Fix leaky toilets and faucets. Faucet washers are inexpensive and take only a few minutes to replace. To check your toilet for a leak, remove the tank prior to distribution into the system.
- Adjust sprinklers so only your lawn is watered. Apply water only as fast as the soil can absorb it and during the cooler parts of the day to reduce evaporation.
- Teach your kids about water conservation to ensure a future generation that uses water wisely. Make it a family effort to reduce next month’s water bill.

Visit www.epa.gov/watersense for more information.

SANTA FE COUNTY UTILITIES DIVISION

2018 Water Quality Report

Overview

Santa Fe County Utilities (SFCU) is pleased to present the 2018 Water Quality Report for the West Sector public water system to our customers and the public. A safe and reliable water supply is vital to our community and is one of the primary missions of Santa Fe County.

In 2018, the West Sector’s drinking water met all U.S. Environmental Protection Agency (EPA) drinking water quality Standards.

The West Sector supplies potable water to users outside of the western boundary of the City of Santa Fe (City) and within the boundary of the Historic Village of Agua Fria. These areas include Las Campanas Estates I & II, Aldea, Teserra, El Prado, La Serena, Los Sueños, Sonrisa, the Northwest Ranches, and the Vista Aurora Subdivision. Water is also provided to the Las Campanas Water and Sewer Cooperative and to the Agua Fria Community Water System.

This report summarizes where the SFCU water supply comes from and how it compares to federal regulatory drinking water standards. As water quality samples are collected periodically throughout the year, this report presents data representative of the water quality during calendar year 2018 or previous years if sampling for a specific contaminant was not required during 2018.

If you have any questions about this report, concerns regarding your water utility, or would like to learn more about the County’s plans for the future water supply, please visit our website at: www.santafecountynm.gov/public_works/utilities or call us at 505-992-9870.

If you would like to become involved in issues of water supply in our area, you are encouraged to attend meetings of our governing body, the Santa Fe County Commission, which occur on the second and last Tuesday of each month starting at 2:00 pm. Meeting agendas are posted at: www.santafecountynm.gov/committees/board_of_county_commissioners_bcc.

Additionally, the Santa Fe County Water Policy Advisory Committee meets every other month at 5:00 pm at the Public Works Complex, 424 NM Hwy 599 Frontage Rd. Agendas and minutes are posted at: http://www.santafecountynm.gov/committees/wpac.

En Español

Este informe contiene información sobre el agua calidad en el condado de Santa Fe del parte oeste del sistema de agua. Si tiene alguna pregunta o duda sobre este informe, por favor llama a la utilidad del condado de Santa Fe a 505-992-9870.

424 NM SR 599 Santa Fe, NM 87507
Phone (505) 992-9870 Fax (505) 992-3028
www.santafecountynm.gov
Sources of Supply

The sources of water supply for both the County and the City water systems are the same throughout the Santa Fe metropolitan and surrounding areas and include both ground water and surface water. The map below and page 1 illustrate and briefly explain the sources and treatment of the County and City water supply systems.

Source of Supply Water Quality

As required by the Federal Safe Drinking Water Act, water quality sampling and analysis are conducted to ensure drinking water quality meets standards. The City is required to test for over 80 contaminants, and the vast majority of these contaminants were not found above detection limits. Table 1 on page 4 & 5 lists contaminants and the results of those samples collected in previous years if not analyzed during 2018. The table includes only those constituents found above detection limits during 2018 sampling, or during sampling in previous years if not analyzed during 2018. 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 table includes only those constituents found above detection limits during 2018 sampling, or during sampling in previous years if not analyzed during 2018. 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.

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 have been included later in this report and can be obtained by calling the Environmental Protection Agency’s (EPA) Safe Drinking Water Hotline (800) 426-4791, or visiting: http://www.epa.gov/safewater.

### Lead and Copper Testing

Tests for lead and copper were taken from 10 customer taps located in the West Sector once in 2018 on 9/13/2018. None of the samples exceeded the action level for lead or copper. The sample results are reported in Table 5 below. Ten samples will next be collected in 2021 during the period between June 1 and September 30 and analyzed for lead and copper and the results of those samples will be reported in our 2021 Water Quality Report.

Lead and copper levels reported are values for the 90th percentile. In this case, 10 samples were collected and the 9th highest sample result represents the 90th percentile. In this case, 10 samples were collected and the 9th highest sample result represents the 90th percentile.

The running annual average (RAA) of monthly samples collected from BRWTP finished water. In 2018 the highest RAA was 0.0052 mg/L, which is lower than the 0.010 mg/L MCL (Table 4 below), indicating that the system was in compliance with bromate requirements for all of 2018.

<table>
<thead>
<tr>
<th>TABLE 2</th>
<th>Results of Disinfection By-Product Testing for 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Sector Disinfection By-Product Results</td>
<td>Units</td>
</tr>
<tr>
<td>Total Haloacetic Acids (HAA5)</td>
<td>ppm</td>
</tr>
<tr>
<td>Total Thriahalomethanes (THM3)</td>
<td>ppm</td>
</tr>
</tbody>
</table>

### Bromate Monitoring

Bromate monitoring is required at the entrance to the distribution system whenever ozone is used to treat drinking water. Buchman Regional Water Treatment Plant (BRWTP) is the only treated water source that supplies ozonated water to the City and County water systems. Compliance is based on the running annual average (RAA) of monthly samples collected from BRWTP finished water. In 2018 the highest RAA was 0.0052 mg/L, which is lower than the 0.010 mg/L MCL (Table 4 below), indicating that the system was in compliance with bromate requirements for all of 2018.

<table>
<thead>
<tr>
<th>TABLE 3</th>
<th>Results of Disinfectant Residual Testing for 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Sector</td>
<td>Disinfectant Residual Results</td>
</tr>
<tr>
<td>Chlorine Residual</td>
<td>ppm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TABLE 4</th>
<th>Results of Disinfectant Residual Testing for 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Sector</td>
<td>Units</td>
</tr>
<tr>
<td>Bromate</td>
<td>ppm</td>
</tr>
</tbody>
</table>

### Lead and Copper Action Level

The lead and copper levels reported are values for the 90th percentile. In this case, 10 samples were collected and the 9th highest sample result represents the 90th percentile.

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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 household plumbing. SFCU 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 and up to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have its quality 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 (800) 426-4791, or visiting: http://www.epa.gov/safewater/lead.

<table>
<thead>
<tr>
<th>TABLE 5</th>
<th>Results of Lead and Copper Testing for 2018 (Next Analysis 2021)</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Sector Lead &amp; Copper Results</td>
<td>Units</td>
</tr>
<tr>
<td>Copper</td>
<td>ppm</td>
</tr>
<tr>
<td>Lead</td>
<td>ppm</td>
</tr>
</tbody>
</table>
Why Are There Contaminants In Drinking Water?

The sources of all drinking water (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 or suspended naturally occurring and man-made substances. These substances can 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 that may be naturally occurring or result from urban storm-water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, and farming;

**Pesticides and herbicides**, that 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, which 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.

**Intentionally added substances**: Water from all four supply sources for the SFCU water supply is disinfected with chlorine to protect against waterborne pathogens. To protect consumers’ teeth, fluoride may also be added at levels generally recommended by public health professionals.

In order to ensure that tap water is safe to drink, state and federal regulations limit the amount of certain contaminants allowed 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.

**Do I Need To Take Special Precautions?**

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as individuals 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. Health care providers should advise you about certain risks associated with tap water if you have an immune compromising condition. 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 Water Drinking Hotline (1-800-426-4791).

**Specific Contaminants:**

**Arsenic:**

The drinking water standard for arsenic is 10 ppb. The SFCU’s water supply met this standard throughout 2018 (please see Table 1, pages 4&5, of this document for the levels of arsenic measured in 2018—varying locations). Arsenic occurs naturally in the earth’s rock crust. When arsenic-containing rocks, minerals, and soil erode, they release arsenic into ground water. While our drinking water meets EPA’s standard for arsenic, it does contain low levels of arsenic. The EPA 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.

**Nitrates**

The SFCU’s drinking water supply meets the federal drinking water standard of 10 ppm for nitrates. Nitrates have been detected in some of the City Wells up to 7 parts per million (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, which is a potentially fatal blood disorder in which there is a reduction in the oxygen carrying capacity of blood. 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 seek advice from your health care provider concerning nitrate in drinking water.

**Microbial and Disinfection Byproducts Rule**

The Microbial and Disinfection Byproducts Rule (DBPR) is a set of interrelated regulations that address risks from microbial pathogens and disinfection by-products (DBPs). The Stage 2 Disinfectants and Disinfection By-Products Rule (DBPR) focuses on public health protection by limiting exposure to known carcinogenic DBPs, specifically total trihalomethanes (TTHM) and five haloacetic acids (HAA5), which can form in water through disinfectants (e.g. chlorine) used to control microbial pathogens. In 2018, the West Sector had one compliance sampling location for TTHM and a separate location for HAA5. Each of these locations was sampled once each quarter throughout the year. 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 for each location must be below the MCL (60 ppb for HAA5 and 80 ppb for TTHM). Based upon the samples that were collected, the West Sector’s water met the MCL standards. The results are presented in Table 2. The Stage 2 DBPR also regulates the maximum residual for disinfectants, including chlorine. Disinfectants are added to control microorganisms as part of treatment and to maintain microbiological water quality throughout the distribution system and up to your tap. The West Sector uses free chlorine as a disinfectant. For 2018, sampling was performed at 24 monitoring locations each month. The results are shown in Table 3.
### Table 1—2018 West Sector Water Quality

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Units</th>
<th>MCL</th>
<th>MCLG</th>
<th>City Well Field*</th>
<th>Sample Date</th>
<th>Buckman Tank WTP</th>
<th>Sample Date</th>
<th>Canyon Road WTP</th>
<th>Sample Date</th>
<th>Buckman RWTP</th>
<th>Sample Date</th>
<th>Violation</th>
<th>Typical Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synthetic Organic Contaminants (SOCs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Di(2-ethylhexyl) Phthalate</td>
<td>ppb</td>
<td>6</td>
<td>0</td>
<td>1.14 (ND - 1.14)</td>
<td>2017</td>
<td>ND</td>
<td>2017</td>
<td>ND</td>
<td>2018</td>
<td>ND</td>
<td>2018</td>
<td>No</td>
<td>Discharge from rubber and chemical factories.</td>
</tr>
<tr>
<td>Arsenic</td>
<td>ppm</td>
<td>10</td>
<td>0</td>
<td>3.5 (ND - 3.5)</td>
<td>2017</td>
<td>ND</td>
<td>2017</td>
<td>ND</td>
<td>2018</td>
<td>ND</td>
<td>2017</td>
<td>No</td>
<td>Discharge from drilling wastes; Discharge from metal refineries; Erosion of natural deposits</td>
</tr>
<tr>
<td>Barium</td>
<td>ppm</td>
<td>2</td>
<td>2</td>
<td>0.73 (ND - 0.73)</td>
<td>2017</td>
<td>0.039</td>
<td>2017</td>
<td>0.03</td>
<td>2018</td>
<td>0.05</td>
<td>2018</td>
<td>No</td>
<td>Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes</td>
</tr>
<tr>
<td>Fluoride</td>
<td>ppm</td>
<td>4</td>
<td>4</td>
<td>0.1 (ND - 0.1)</td>
<td>2017</td>
<td>0.37</td>
<td>2017</td>
<td>0.17</td>
<td>2018</td>
<td>0.37</td>
<td>2017</td>
<td>No</td>
<td>Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories</td>
</tr>
<tr>
<td>Nitrate (as N)</td>
<td>ppm</td>
<td>10</td>
<td>10</td>
<td>8.4 (2.4 - 8.4)</td>
<td>2017</td>
<td>ND</td>
<td>2018</td>
<td>ND</td>
<td>2018</td>
<td>ND</td>
<td>2018</td>
<td>No</td>
<td>Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion from natural deposits</td>
</tr>
<tr>
<td>Selenium</td>
<td>ppb</td>
<td>50</td>
<td>50</td>
<td>2 (0 - 2)</td>
<td>2018</td>
<td>ND</td>
<td>2018</td>
<td>ND</td>
<td>2018</td>
<td>ND</td>
<td>2017</td>
<td>No</td>
<td>Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines</td>
</tr>
<tr>
<td>Radioactive Contaminants *</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross Alpha Emitters</td>
<td>pCi/L</td>
<td>15</td>
<td>0</td>
<td>0.8 (0.2 - 0.8)</td>
<td>2017</td>
<td>0.5</td>
<td>2017</td>
<td>NA</td>
<td>NA</td>
<td>5.9 (0.5 - 5.9)</td>
<td>2018</td>
<td>No</td>
<td>Emission of natural deposits</td>
</tr>
<tr>
<td>Gross Beta/Photon Emitters</td>
<td>pCi/L</td>
<td>50*</td>
<td>NA</td>
<td>1.4 (ND - 1.4)</td>
<td>2017</td>
<td>3.5</td>
<td>2017</td>
<td>NA</td>
<td>NA</td>
<td>2.6</td>
<td>2018</td>
<td>No</td>
<td>Decay of natural and man-made deposits.</td>
</tr>
<tr>
<td>Radium 226/228</td>
<td>pCi/L</td>
<td>5</td>
<td>0</td>
<td>0.75 (0.39 - 0.75)</td>
<td>2017</td>
<td>0.03</td>
<td>2017</td>
<td>NA</td>
<td>NA</td>
<td>0.03</td>
<td>2018</td>
<td>No</td>
<td>Erosion of natural deposits</td>
</tr>
<tr>
<td>Uranium</td>
<td>ppb</td>
<td>30</td>
<td>0</td>
<td>1</td>
<td>2017</td>
<td>2</td>
<td>2017</td>
<td>NA</td>
<td>NA</td>
<td>8</td>
<td>2018</td>
<td>No</td>
<td>Erosion of natural deposits;</td>
</tr>
<tr>
<td>Surface Water Contaminants *</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turbidity (highest single measurement)</td>
<td>NTU</td>
<td>TT = 1.0</td>
<td>0</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>0.26</td>
<td>2018</td>
<td>0.19</td>
<td>2018</td>
<td>No</td>
</tr>
<tr>
<td>Turbidity (lowest monthly % meeting limits)</td>
<td>NTU</td>
<td>% &lt;0.3 NTU</td>
<td>0</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>100%</td>
<td>2018</td>
<td>100%</td>
<td>2018</td>
<td>No</td>
</tr>
<tr>
<td>Total Organic Carbon (TOC) removal ratio</td>
<td>NA</td>
<td>TT*</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>1.2* (1.2 - 1.3)</td>
<td>2018</td>
<td>NA</td>
<td>NA</td>
<td>No</td>
</tr>
</tbody>
</table>

Notes:

a. EPA considers 50 pCi/L to be the level of concern for beta particles.

b. Alternative compliance criteria used to meet TOC removal requirements (running annual average of TOC removal ratio must be >1 each month)

c. The range represents the highest and low values within the Compliance Period indicated, if more than one sample was collected.

d. Gross Alpha Emitters excluding Radon and Uranium

e. City wellfield: Alto, Aqua Fria, Ferguson, Osage, Santa Fe, St. Mike & Torreon. (Total 8 wells - 1 missing)

f. Buckman Wells 1-13 and Northwest Well.

g. Running annual average (RAA) of TOC removal ratio for each month during 2018 - minimum ratio was 1.2 (as per 40 CFR 141.135 (c) 2006)

Key to 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)
TT: A Treatment Technique standard was set instead of an Maximum Contaminant Level