Santa Fe County
Water Utilities

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2012 Water Quality Report

South Sector
NM3500826

County of Santa Fe 2012 Water Quality Report

Santa Fe County Water Utilities (SFCU) is pleased to present to our customers and the public the 2012 Water Quality Report for the South Sector. A safe and sustainable water supply is vital to our community and is the primary mission of Santa Fe County. The County Water Utilities supplies potable water to users within a three-mile radius outside of the corporate limits of the City of Santa Fe. In 2012, the County's drinking water met all U.S. Environmental Protection Agency (EPA) and New Mexico drinking water quality parameters. This report is designed to inform customers and the public about where our water comes from, what it contains, and how it compares to standards set by regulatory agencies. The South Sector of the Santa Fe County Utility water system serves Rancho Viejo, Las Lagunitas, Oshara Village, La Pradera, New Mexico National Guard, SFC Public Safety Complex, SFC Detention Center, Entrada La Cienega & Paseo C de Baca , Valle Vista, Valle Vista County Housing and Pueblo Garcia Heights. Santa Fe County Utilities herby reiterates its commitment we make to continually improve its supply and distribution efforts, while protecting our community's precious water resources. This report is a snapshot of the water quality during calendar year 2012.

Source of Supply

Three primary sources supplied water to the Santa Fe metropolitan area in 2012. 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), respectively. The Buckman Well Field consists of 13 wells located near the Rio Grande, approximately 15 miles northwest of the City's Plaza.

BDD intake facility on the Rio Grande

In 2011, the Buckman Direct Diversion (BDD) Project was successfully integrated into the metropolitan distribution system and operated in conjunction with Well Fields and Santa Fe River Reservoirs. The surface water treated at the BRWTP is taken directly from the Rio Grande.

En Español

Este panfecto contiene información importante sobre la calidad del agua en Santa Fe. Si tiene alguna pregunta o duda sobre este reporte, hable a Millie Valdivia al teléfono 505-992-9870.

The BDD not only enhances the sustainability for the area's water supply but also increases resilience under drought conditions. Reducing unsustainable groundwater pumping, makes ground water available as drought and emergency reserves, rather than from principal sources of supply used to meet daily water demands. Water from all four sources is treated with chlorine, which is used for disinfection and pathogenic microorganism removal. Fluoride is also added as it is generally recommended by public health professionals.

Is my water safe?

We are proud to announce that in 2012 the County's drinking water supply met all U.S. Environmental Protection Agency (EPA) and New Mexico drinking water quality standards. We are committed to obtaining and distributing the highest quality of your water.

Source Water Assessment and Availability.

The New Mexico Environment Department (NMED) completed the Source Water Assessment to determine source water protection areas and an inventory of contaminant sources within the areas of concern. NMED concluded: " The Susceptibility Analysis of the County of Santa Fe water utility reveals that the utility is well maintained and operated, and drinking water sources are generally protected from potential contamination. The susceptibility rank of the entire water system is **moderately low.**" A copy of the Assessment is available by contacting NMED at 476-8631.

Why are there contaminants in my Drinking water?

The sources of all 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 also pick up substances resulting from the presence of animals or from human activity. This can include:

Microbial contaminants, such as viruses and bacteria that may come from treated wastewater discharges, 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 even domestic wastewater.

Radioactive contaminants can be naturally occurring, or the result of oil and gas production, or mining activities. In order to ensure that tap water is safe to drink, EPA prescribes regulations to limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Voluntary monitoring

In cooperation with Los Alamos National Laboratory (LANL) and New Mexico Environment Department, the City of Santa Fe continues to monitor Buckman Wells 1, 2 and 8 for potential LANL contamination derived from activities at LANL. Samples have been analyzed for radiological particles, general inorganic, metals, high explosives and organics. The results indicate detectable levels of radionuclides associated with natural sources. No Laboratory-derived radionuclides were detected in 2012. Repeat sampling since 2001 indicates Laboratory-derived radionuclides are not present in the Buckman Wells 1, 2 and 8. These wells are the most active of the 13 wells that make-up the Buckman Well Field. When required, water from these wells is delivered to the Buckman Tank prior to distribution to customers.

Arsenic

Arsenic occurs naturally in the earth's crust. When arsenic-containing rocks, minerals, and soil erode, they release arsenic into ground water. The drinking water standard for arsenic is 10 parts per billion or 10 µg/l. The SFCWU drinking water met this standard in 2012. While our drinking water meets EPA's established standards, it does contain low levels of arsenic. EPA's standard is the result of balancing the current understanding of arsenic's potential health effects against the costs of removing arsenic from drinking water.

Cryptosporidium

Cryptosporidium is a protozoan parasite that enters our source waters from wild animal populations. Although the microorganism is readily removed by the conventional treatment process utilized at the Canyon Road Water Treatment facility, the oocyst is resistant to chemical disinfectants like chlorine. Ingestion of *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection that can cause serious illness and even death.

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 be required.

Any new water system treating surface water, such as Buckman Regional Water Treatment Plant, is required to monitor cryptosporidium for 24 consecutive months. Untreated raw Rio Grande water tested at the BDD for cryptosporidium range from 0 to 1 Oocysts per 10 liters.

Important Drinking Water Definitions:

MCL: *Maximum Contaminant Level* - (mandatory language) 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.

MCLG: *Maximum Contaminant Level Goal* - (mandatory language) 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.

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

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

PPM: *Parts per million or Milligrams per liter (mg/l)* - one part in a million parts.

PPB: *Parts per billion (ppb) or Micrograms per liter (µg/l)* - one part in a billion parts

Nitrates

Santa Fe County drinking water meets the federal drinking water standard of 10 ppm for nitrates. Nitrates have been detected in some of the City Wells above 5 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.

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 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. 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 (800-426-4791).

TABLE 2—Results of Disinfection By-Product and Additive Testing

South Sector Disinfection By-Product	Units	MCL	Average Result	Range		Sample Date	Typical Source
				Low	High		
Total Haloacetic Acids (HAA5)	ppb	60	16.00	10.0	22.0	6/5/2012	By-product of drinking water chlorination.
Total Trihalomethanes (TTHM)	ppb	80	34.12	25.3	54.0	6/5/2012	By-product of drinking water chlorination.
Total Chlorine Residual	ppb	4	0.43	0.29	0.59	Monthly	Water additive use to control microbes

Disinfection By-Products (DPBs)

Santa Fe County routinely conducts testing for total Trihalomethanes (TTHMs) and haloacetic acids (HAA5s). Test results are listed in Table 2, and reveal low levels of contaminants. In 2012, the NMED reduced the required testing schedule for disinfection-by-products for Santa Fe County from quarterly to an annual schedule due to prior-year test results being consistently low. The results in Table 2 reflect this new testing schedule. Trihalomethanes (THMs) and Haloacetic Acids (HAA5) are two groups of chemicals that are formed along with other disinfection byproducts when chlorine or other disinfectants, used to control microbial contaminants in drinking water, react with naturally occurring organic and inorganic matter in water. Some studies have suggested a possible link between high levels of TTHMs and adverse effects on reproductive health, including low birth weight and miscarriage. These research findings have not been confirmed, but studies are continuing and the EPA is considering newer, more restrictive standards for TTHMs.

Lead and Copper Sampling

In 2012, the NMED reduced the required testing schedule for Lead and Copper for Santa Fe County from quarterly to an annual schedule due to prior-year test results being consistently low. Tests for lead and copper are taken from customer taps located throughout the County's system. Samples were pulled in 2011 and reported in Table 3 below. As of this writing for the 2012 Water Quality Report, test results for Lead and Copper sampling have not yet been performed and will be included for publication next year in the 2013 report.

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 house plumbing. Santa Fe County Utility 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 a period between 30 seconds and 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 or at http://www.epa.gov/safewater/lead

Contacts for Additional Information

This report provides details regarding our water quality and what it means. 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 contact the Santa Fe County Utilities Department at 992-9870 or at www.santafecounty.org. We want you, our valued customer to be informed about the quality of the water you drink and bathe in, as well as their utility. If you want to be involved, please attend any of the Santa Fe County Commission meetings, our governing body, which has regularly scheduled meetings the second and last Tuesday of each month starting at 2:00 PM and 1:00 PM re-

Helpful Web Sites

Santa Fe County Utilities Department

www.santafecounty.org.

New Mexico Environment Department

http://www.nmenv.state.nm.us

Environmental Protection Agency

Drinking Water

www.epa.gov/safewater

U.S. Geological Survey

http://nm.water.usgs.gov

Center for Disease Control

http://www.cdc.gov

Buckman Direct Diversion

2012 Santa Fe County and Buckman Direct Diversion Water Quality Table

The table 4 on the following page lists contaminants which:

1) Have associated Primary Maximum Contaminant Levels (MCLs) that are regulated and;

2) Were detected in testing conducted by the City of Santa Fe and the New Mexico Environment Department. Contaminants were detected at or above detection limits established by the USEPA in calendar year 2012 or the most recent test if a sample was not analyzed in 2012.

The compounds detected represent a small fraction of the substances that were tested for. Testing is required for over 80 contaminants. 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, 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 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 www.epa.gov/safewater.

BDD Water Treatment Plant

TABLE 3—Results of 2011 Lead and Copper Testing

Inorganic Contaminants	MCLG	AL	Your Water (90th %)[a]	No. of Sample Exceeding the AL	Sample Date	Violation	Typical Source
Copper (ppm)	1.3	1.3	0.059	0 of 21	July 20th 2011	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems
Lead (ppb)	0	15	0.00316	0 of 21	July 20th 2011	No	Corrosion of household plumbing systems; Erosion of natural deposits

Lead and Copper Action Level

The lead and copper levels reported are values for the 90th percentile which in this case is the 3rdsample.

TABLE 4—Santa Fe County 2012 Water Quality

Contaminant	Units	MCL	MCLG	City Well Field [e]	Compliance Period 2011—2013		Sample Date	Buckman Tank [f]	Compliance Period 2011—2013		Sample Date	Canyon Road WTP	Compliance Period 2011—2013		Sample Date	Buckman RWTP	Compliance Period 2011—2013		Sample Date	Violation	Typical Source
					Low	High			Low	High			Low	High			Low	High			
Inorganic Contaminants																					
Arsenic	ppb	10	0	4.6	-	4.6	5-18-2011	1.6	-	1.6	6-17-2011	ND	-	-	3-7-2012	ND	-	-	4-12-2012	No	Erosion of natural deposits. Runoff from orchards. Runoff from glass and electronics production wastes.
Barium	ppm	2	2	0.8	-	0.8	8-24-2011	0.073	-	0.073	6-17-2011	0.0076	-	0.0076	3-7-2012	0.039	-	0.039	4-12-2012	No	Discharge from drilling wastes. Discharge from metal refineries. Erosion of natural deposits.
Fluoride	ppm	4	4	0.18	0.13	0.18	5-18-2011	0.25	-	0.25	6-17-2011	0.13	-	0.13	3-7-2012	0.22	-	0.22	4-12-2012	No	Erosion of natural deposits. Water additive which promotes strong teeth. Discharge from fertilizer and aluminum factories.
Selenium	ppb	50	50	1.7	1.1	1.7	5-16-2011	ND	-	-	6-17-2011	ND	-	-	3-7-2012	ND	-	-	4-12-2012	No	Discharge from steel/metals factories; Discharge from plastic and fertilizer factories.
Nitrate [as N]	ppm	10	10	7.1	2.6	7.1	5-3-12	ND	-	-	5-3-2012	ND	-	-	3-7-2012	ND	-	-	4-12-2012	No	Runoff from fertilizer use. Leaching from septic tanks and sewage. Erosion from natural deposits.
Radioactive Contaminants					**Compliance Period 2008—2014**																
Gross Alpha Emitters	pCi/L	15	0	1.1	-	1.1	8-9-2012	1.3	-	1.3	6-16-2011	0.6	-	0.6	6-16-2011	0.9	-	0.9	11-30-2011	No	Erosion of natural deposits.
Gross Beta/Photon Emitters	pCi/L	50[a]	NA	ND	-	-	8-9-2012	2.4	-	2.4	6-16-2011	0.7	-	0.7	6-16-2011	2.6	-	2.6	11-30-2011	No	Decay of natural and man-made deposits.
Radium 226/228	pCi/L	5	0	0.45	-	0.45	8-9-2012	0.18	-	0.18	6-16-2011	0	-	0	6-16-2011	0.02	-	0.02	11-30-2011	No	Erosion of natural deposits.
Uranium	ppb	30	0	ND	-	-	8-9-2012	ND	-	-	6-16-2011	ND	-	-	6-16-2011	1.00	-	1.00	11-30-2011	No	Erosion of natural deposits.
Surface Water Contaminants																					
Turbidity (highest single measurement)	NTU	TT = 0.3	0	NA	-	-	NA	NA	-	-	NA	1.6	-	1.6	Continuous	0.99	-	0.99	Continuous	No	Soil runoff.
Turbidity (lowest monthly % meeting limits)	NTU	TT = % <0.3 NTU	0	NA	-	-	NA	NA	-	-	NA	99.4%	-	99.4%	Continuous	99.3%	-	99.3%	Continuous	No	Soil runoff.
Total Organic Carbon (TOC)	ppm	TT = (35% - 45%	NA	NA	-	-	NA	NA	-	-	NA	39% to 70% Removal [b]	-	-	Monthly in 2012	NA	-	-	Not Required	No	Naturally present in the environment.

Notes:

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

b. The City complies with alternative compliance criteria to meet TOC removal requirements.

c. The range represents the high and low values. Range values are not given if only one sample was taken during the range period.

d. Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtrations system

e. City well field: Alto, Agua Fria, Ferguson, Osage, Santa Fe, St. Michael & Torreon.

f. Buckman wells 1-13 and Northwest well.

Key to Units, Terms and Abbreviations:

NA: Not Applicable

ND: Not Detected

NS: Not Sampled

NTU: Nephelometric Turbidity Units

MNR: Monitoring not required, but recommended

mg/l: Number of milligrams of substance per liter of water

ppm: parts per million, or milligrams per liter (mg/l)

ppm: parts per million, or milligrams per liter (mg/l)

ppb: parts per billion, or micrograms per liter (µg/L/l)

pCi/l: picocuries per liter (a measure of radioactivity

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

TT: A Treatment Technique standard was set instead of a Maximum Contaminant Level.

µg/l: Number of micrograms of substance per liter of water.