Santa Fe County
Utilities Department

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2010 Water Quality Report

South Sector NM3500826

County of Santa Fe 2010 Water Quality Report

Introduction

Santa Fe County Utilities Department (SFCUD) is pleased to present to the public and to our customers its Annual Water Quality Report. This 2010 report is designed to inform the user and consumer about the quality of water and services that we deliver every day throughout the year. The 2010 Water Quality Report is for the West Sector of Santa Fe County utility water system which includes the El Prado, La Serena, La Vida, Los Sueños & Sonrisa subdivisions. Our constant goal is to provide a safe and dependable supply of drinking water. We want the public to understand the efforts we make to continually improve the water supply and distribution process and the efforts being provided to protect our water resources. We are committed to ensuring the quality of your water.

Source of Supply

Santa Fe County Utility purchased your water from the City of Santa Fe from three distinct sources in 2010. 1) Surface water runoff from the Santa Fe Watershed where it is stored in the McClure and Nichols Reservoir prior to treatment. 2) Groundwater from the City Well Field located in close proximity to the Santa Fe River and consists of 8 active wells. 3) Groundwater from the Buckman Well Field has 13 active wells located near the Rio Grande. All three sources are treated with chlorine which is used for disinfection and pathogenic microorganisms reduction. Fluoride is added to the water supply to benefit the community as recommended by public health officials. The West Sector receives water from the Buckman Well Field and the Northwest Well. The Buckman Direct Diversion was not used as a water source in 2010.

McClure Reservoir

Source Water Assessment and its Availability.

In 2003 the New Mexico Environment Department (NMED) completed the Source Water Assessment for the County of Santa Fe. This assessment includes a determination of 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 the sources of drinking water are generally protected from potential sources of contamination based on an evaluation of the available information. The susceptibility rank of the entire water system is* ***moderately low.*** *"* A copy of the Assessment is available by contacting NMED at 476-8631.

Is my water safe?

We are pleased to present this year's Annual Water Quality Report (Consumer Confidence Report) as required by the Safe Drinking Water Act (SDWA). This report is designed to provide details about where your water comes from, what it contains, and how it compares to standards set by regulatory agencies. This report is a snapshot of last year's water quality. We are committed to providing you with information because informed customers are our best allies.

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. 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 Water Drinking Hotline (800-426-4791).

Why are there contaminants in my Drinking water?

The 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. This 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, 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 can be naturally occurring, or 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.

Results of voluntary monitoring

EPA has established National Secondary Drinking Water Regulations that set non-mandatory water quality standards. EPA and the State do not enforce these "secondary maximum contaminants levels" or "SMCLs." They are established only as guidelines to assist public water systems in managing their drinking water. These contaminants are not considered to present a risk to human health. The City tests for them on a voluntary basis. 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.

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 LANL derived contamination. Samples have been analyzed for radiological particles, general inorganics, metals, high explosives and organics. The results indicate detectable levels of radionuclides associated with natural sources. No Laboratory-derived radionuclides were detected in 2010. Repeated sampling since 2001 indicates Laboratory-derived radionuclides are not present in the Buckman Wells 1, 2 and 8. These wells are part of 13 wells that make-up the Buckman Well Field. Water from these wells is delivered to the Buckman Tank prior to distribution into the system.

TABLE 1—Results of Recent Voluntary SMCL Testing

Parameter	Units	SMCL	City Well Field		Canyon Road Plant		Buckman Well	
			Range		Range		Range	
			Low	High	Low	High	Low	High
Aluminum	mg/L	0.05 - 0.2		ND	ND	0.21	ND	0.017
Chloride	mg/L	250	< 10	44.8		27.48	2.43	8.1
Copper	mg/L	1	ND	0.02		.006	ND	0.008
Iron	mg/L	0.3		ND		ND	ND	0.23
Manganese	mg/L	0.05	ND	.002		ND	ND	0.0027
pH		6.5 - 8.5	7.7	7.93	7.72	7.9	7.04	8.21
Silver	mg/L	0.1		ND		ND		ND
Sulfate	mg/L	250	ND	75.6		21.38	ND	29
Total Dissolved Solids	mg/L	500	170	372		148	170	890
Zinc	mg/L	5		ND		ND	ND	2.9
Hardness (Ca & Mg)	mg/L	NA	90	227		NS	18.3	263

SMCL - Secondary Drinking Water Standard—monitoring recommended, **ND**—Not Detected, **NA** - Not Applicable, **NS**—Not sampled **mg/l**—milligrams per liter

Arsenic

The drinking water standard for arsenic is 10µg/l. The SDCW drinking water met this standard in 2010. Arsenic occurs naturally in the earth's crust. When these arsenic-containing rocks, minerals, and soil erode, they release arsenic into ground water. While our drinking water meets EPA's standard, it does contain low levels of arsenic. EPA's new 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 such as skin damage and circulatory problems.

Cryptosporidium

In April 2007 the City began a two year study to determine the average cryptosporidium concentration in source water entering the Canyon Road Treatment Facility (CRTF). The sampling portion of the study was completed in March 2009. The study is 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: Dec– 2007, Sept 2008 and Oct 2008. The highest 12 month consecutive mean for the study was 0.018 00cysts/L. Since the concentration is < 0.075 oocysts/L, no additional treatment as the CRTF will be required. Cryptosporidium is a protozoan parasite that is common in surface waters. Cryptosporidium in introduced into our source waters via wild animal populations. The oocyst is the transmission stage of the organism. Although the organism is readily removed by the conventional treatment used at the CRTF, the oocyst is resistant to chemical disinfectants like chlorine and the primary reason to determine if additional treatment is required. Ingestion of cryptosporidium may cause cryptosporidiosis, an abdominal infection.

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

South Sector Disinfection By-Product	Units	MCL	Result	Range		Sample Date	Typical Source
				Low	High		
Total Haloacetic Acids (HAA5)	ppb	60	11.09	1.352	20.29	Bi-Annual	By-product of drinking water chlorination.
Total Trihalomethanes (TTHM)	ppb	80	38.94	9.67	77.7	Bi-Annual	By-product of drinking water chlorination.
Total Chlorine Residual	ppb	4	0.44	0.12	0.95	Monthly	Water additive use to control microbes

Disinfection By-Products (DPBs)

Santa Fe County has been testing for total Trihalomethanes (TTHMs) and haloacetic acids (HAA5s) , with results listed in Table 2, have revealed low levels of each. 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

Tests for lead and copper are taken from customer taps located throughout the County system. Samples were pulled in 2010 and reported in Table 3 below.

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. 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 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

Nitrates

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

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 our valued customers to be informed about their water quality as well as their utility. If you want to find out more, 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 3:00 PM and 10:00 AM respectively.

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

2010 City of Santa Fe 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 2010 or the most recent test if a sample was not analyzed in 2010.

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.

TABLE 3—Results of 2010 Lead and Copper Testing

Inorganic Contaminants	MCLG	AL	Your Water (90th %)[a]	No. of Sample Exceeding the	Sample Date	Violation	Typical Source
Copper (ppm)	1.3	1.3	0.051	0 of 42	2010	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems
Lead (ppb)	0	15	1.3	0 of 42	2010	No	Corrosion of household plumbing systems; Erosion of natural deposits

Lead and Copper Action Level

a. The lead and copper levels reported are values for the 90th percentile which in this case is the 37th sample.

AL - Action Level

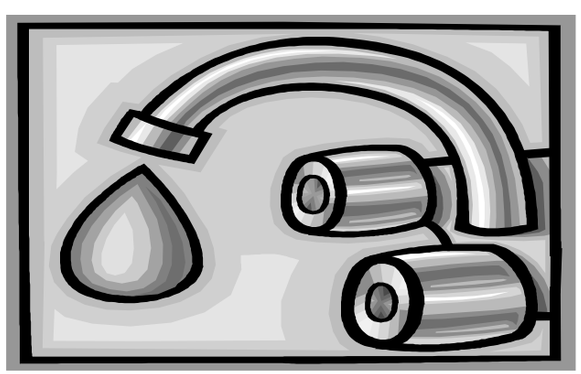

TABLE 4—City of Santa Fe 2010 Water Quality

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of contaminants in water provided by public water systems. The table below lists all of the drinking water contaminants that we detected during the calendar year of this report. Although many more contaminants were tested, only those substances listed below were found in your water. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the data presented in this table is from testing done in the calendar year of the report. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of our data, though representative, may be more than one year old. In this table you will find terms and abbreviations that might not be familiar to you. To help you better understand these terms, we have provided the definitions below the table.

Contaminant	Units	MCL	MCLG	City Well Field [e]	Range[c] 2008 - 2010		Sample Date	Buckman Tank[f]	Range[c] 2008 - 2010		Sample Date	Canyon Rd. WTP	Range[c] 2008 - 2010		Sample Date	Violation	Typical Source
					Low	High			Low	High			Low	High			
Inorganic Contaminants																	
Arsenic	ppb	10	0	ND	ND	5	Jan 28, 2010	8			June 2, 2010	ND			Jan 28, 2010	No	Erosion of natural deposits. Runoff from orchards. Runoff from glass and electronics production wastes.
Barium	ppm	2	2	0.7	.006	0.7	Jan 28, 2010	0.1			June 2, 2010	.0062			Jan 28, 2010	No	Discharge from drilling wastes. Discharge from metal refineries. Erosion of natural deposits.
Chromium [Total]	ppb	100	100	2ND	ND	2	Jan 28, 2010	7			June 2, 2010	ND			Jan 28, 2010	No	Discharge from steel and pulp mills. Erosion of natural deposits.
Fluoride	ppm	4	4	0.4	0.18	0.4	Jan 28, 2010	0.51			May 20, 2008	0.4			Jan 28, 2010	No	Erosion of natural deposits. Water additive which promotes strong teeth. Discharge from fertilizer and aluminum factories.
Cyanide	ppm	0.2	0.2	0.044	ND	0.044	Jan 28, 2010	ND			May 20, 2008	ND			Jan 28, 2010	No	Discharge from steel/metals factories; Discharge from plastic and fertilizer factories.
Nitrate [as N]	ppm	10	10	6.7	2.8	6.7	May 4, 2010	1.4			July 20, 2010	ND			Jan 28, 2010	No	Runoff from fertilizer use. Leaching from septic tanks and sewage. Erosion from natural deposits.
Sodium	ppm	NA	NA	16	5.4	16	July 20, 2010	84			Dec 8, 2008	16			Jan 28, 2010	No	Erosion of natural deposits. Runoff from de-icing agent used on roads.
Radioactive Contaminants																	
Gross Alpha Emitters	pCi/L	15	0	2.0	.52	2.0	May 4, 2010	7.4			May 29, 2009	ND			May 7, 2009	No	Erosion of natural deposits.
Gross Beta/Photon Emitters	pCi/L	50[a]	NA	6.0	1.01	6.0	May 4, 2010	ND			May 29, 2009	0.102			May 7, 2009	No	Decay of natural and man-made deposits.
Radium 226/228	pCi/L	5	0	2.07	0.57	2.07	May 4, 2010	ND			May 29, 2009	0.156			May 7, 2009	No	Erosion of natural deposits.
Uranium	ppb	30	0	2.62	1.0	2.62	May 4, 2010	9.6			May 29, 2009	0.021			May 7, 2009	No	Erosion of natural deposits.
Synthetic Organic Contaminants																	
Di(2-ethylhexyl)adipate	ppb	400	400	8.7	ND	8.7	July 20, 2010	ND			May 29, 2009 Oct 22, 2008	ND			May 20, 2008 Dec 10, 2008	No	Discharge from chemical factories
Disinfectants & Disinfection By-Products																	
Haloacetic Acids (HAAs)	ppb	60	NA	8.84	0.1	18.8	Sampled Qtrly 2010	0.71	0.3	1.3	Sampled Qtrly 2010	12.27	0.60	21	Sampled Qtrly 2010		By-product of drinking water chlorination.
Total Trihalomethanes (TTHMs)	ppb	80	NA	18.57	0.5	40	Sampled Qtrly 2010	.96	0.3	2.1	Sampled Qtrly 2010	37.57	21.2	54.3	Sampled Qtrly 2010	No	By-product of drinking water chlorination.
Surface Water Contaminants																	
Turbidity[d] (highest single measurement)	NTU	TT = 0.3	0	NA				NA				0.47	NA	NA	Continuous	No	Soil runoff.
Turbidity[d] (lowest monthly % meeting limits)	NTU	TT = Percentage <0.3 NTU	0	NA	NA	NA		NA	NA	NA		99.4%		100%	Continuous	No	Soil runoff.
Total Organic Carbon (TOC)	ppm	TT	NA	NA	NA	NA		NA	NA	NA		39% to 70% Removal[b]	4.3	9.4	Monthly in 2009	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.

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

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

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

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

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

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