

## 2004 WATER QUALITY TABLE City Wellfield

In the tables below, values are provided for all of the drinking water compounds that were detected in our water supply during the calendar year of this report or the most recent test if a sample was not analyzed in 2004. The compounds detected represent a small fraction of the substances that we test for. For example, we are required to test for over 80 contaminants. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. The EPA or the State requires us to monitor for certain contaminants less than once per year because concentrations of these contaminants do not change frequently.

Contaminant (Units)	MCLG	MCL	2004 City Water Level	2002-2004 Range		Sample Date	Violation	Typical Source
				Low	High			
<b>Inorganic Contaminants</b>								
Arsenic (ppb)	NA	50	4	ND	5	27-Apr-04	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium (ppm)	2	2	0.516	0.2	0.845	23-Feb-04	No	Discharge from drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Chromium [Total] (ppb)	100	100	3	ND	6.4	23-Feb-04	No	Discharge from steel and pulp mills; Erosion of natural deposits.
Fluoride (ppm)	4	4	0.438	0.14	1.18	13-Dec-04	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nickel (ppb)	MNR	MNR	1.77	ND	2.7	23-Feb-04	No	Erosion of natural deposits.
Nitrate [as N] (ppm)	10	10	5	2.74	7.3	01-Dec-04	No	Runoff from fertilizer use; Leaching from septic.
Thallium (ppb)	0.5	2	0.06	ND	0.06	23-Feb-04	No	Discharge from electronics, glass, and Leaching from ore-processing sites; drug factories.
<b>Volatile Organic Contaminants</b>								
Trichloroethene	0	5	ND	ND	0.3*	01-Dec-04	No	Discharge from metal degreasing sites and other factories.
Benzene	0	5	ND	ND	0.6*	01-Dec-04	No	Discharge from factories; Leaching from gas storage tanks and landfills.
<b>Radioactive Contaminants</b>								
Alpha Emitters (pCi/l)	0	15	2.31	1.5	2.83	01-Dec-04	No	Erosion of natural deposits.
Beta/Photon Emitters (pCi/l)	NA	NA	1.54	0.711	2.38	12-Aug-02	No	Decay of natural and man-made deposits. The EPA considers 50 pCi/l to be the level of concern for beta particles.
Radium 226/228 (pCi/l)	0	5	2.08	ND	2.08	01-Dec-04	No	Erosion of natural deposits.
<b>Disinfectants &amp; Disinfection By-Products</b>								
Haloacetic Acids (HAA5s) (ppb)	NA	60	6.8	0.7	9.4	31-Dec-04	No	By-product of drinking water chlorination.
TTHMs [Total Trihalomethane] (ppb)	NA	80	13.9	0.3	28.7	31-Dec-04	No	By-product of drinking water chlorination.

A. Two confirmation samples submitted on 3/04 and 12/04 indicated ND for Benzene and Trichloroethene.  
**Units Description:** **NA:** Not Applicable; **ND:** Not Detected; **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; **TT:** A Treatment Technique standard was set instead of a Maximum Contaminant Level; **Range:** The range represents the high and low values. Range values are not given if only one sample was taken during the range period.

## 2004 WATER QUALITY TABLE Surface Water Treatment Plant

Contaminant (Units)	MCLG	MCL	2004 City Water Levels	2002-2004 Range		Sample Date	Violation	Typical Source
				Low	High			
<b>Inorganic Contaminants</b>								
Arsenic	0	50	0.3	ND	0.4	07-Jun-04	No	Erosion of natural deposits; Runoff from glass and electronic production wastes.
Barium (ppb)	2	2	0.008	0.008	0.01	07-Jun-04	No	Discharge from drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Chromium [Total] (ppb)	100	100	1.2	0.2	1.2	07-Jun-04	No	Discharge from steel and pulp mills; Erosion of natural deposits.
Fluoride (ppm)	4	4	0.41	0.23	1.87	07-Jun-04	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nickel (ppb)	MNR	MNR	0.44	0.28	1.22	07-Jun-04	No	Erosion of natural deposits.
Selenium (ppb)	50	50	0.60	ND	1.10	07-Jun-04	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.
<b>Radioactive Contaminants</b>								
Alpha Emitters (pCi/l)	0	15	0.2			10-Jun-03	No	Erosion of natural deposits
Beta/Photon Emitters (pCi/l)	NA	NA	1.4			10-Jun-03	No	Decay of natural and man-made deposits. The EPA considers 50 pCi/l to be the level of concern for beta particles.
Radium 226/228 (pCi/l)	0	5	0.05			10-June-03	No	Erosion of natural deposits.
<b>Disinfectants &amp; Disinfection By-Products</b>								
Haloacetic Acids (HAA5s) (ppb)	NA	60	36.9	1.35	124.78	31-Dec-04	No	By-product of drinking water chlorination.
TTHMs [Total Trihalomethane] (ppb)	NA	80	50.5	9.95	115	31-Dec-04	No	By-product of drinking water chlorination.
Turbidity	NA	TT = 0.3	NA	0.01	1.16	Continuous	No	Soil Runoff - Turbidity is the measure of cloudiness of water caused by suspended solids. Turbidity is a good indicator of water quality and the effectiveness of filtration and disinfection.
Turbidity	NA	TT = % < 0.3 NTU	NA	98%	100%	Continuous	No	Soil Runoff - Turbidity is the measure of cloudiness of water caused by suspended solids. Turbidity is a good indicator of water quality and the effectiveness of filtration and disinfection.
Specific Ultraviolet Absorbance (SUVA) (L/mg-m)	NA	NA	0.371 to 0.844	0.371	0.844	Monthly 2004	NA	SUVA is used as an indication of the amount of TOC enhanced coagulation is capable of removing.
Alkalinity (mg/l)	NA	NA	8.7 to 34	8.7	34	Monthly 2004	NA	Alkalinity is caused by bicarbonates, carbonates and hydroxid and is defined as the capacity to neutralize acids. TOC removal requirements are based on the level of alkalinity in the raw water.
Total Organic Carbon (TOC)	NA	TT	2.3 to 3.8	2.3	3.8	Monthly 2004	No	Naturally present in the environment. TOC has no health effects. However, TOC provides a medium for the formation of disinfection by products. These by products include trihalomethanes (THM) and haloacetic acids (HAAs). Drinking water containing these by products in excess of the MCL may lead to adverse health affects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.

Key to Units, Terms and Abbreviations Included below City Well Field Table.

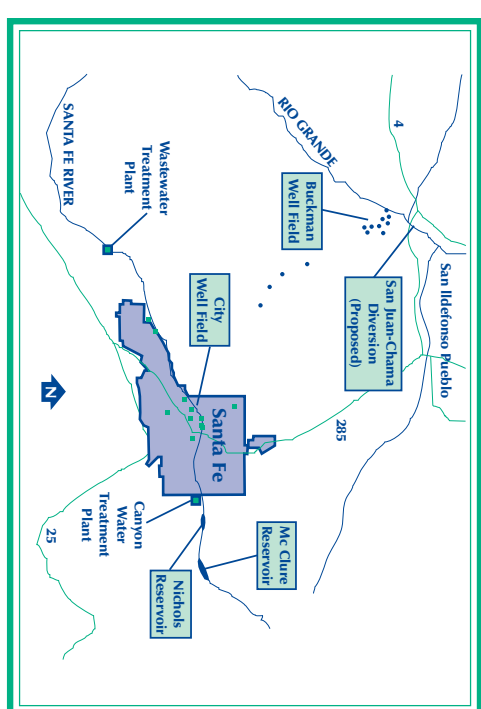


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# 2004 WATER QUALITY REPORT

### Map of Water Sources



### Sources of Supply

The SDCW is served by three separate sources of water supply. These are the Buckman well field, the City well field and surface runoff generated by the Santa Fe Watershed. The Buckman well field consists of 13 active wells located near the Rio Grande, approximately 15 miles northwest of Santa Fe. The City well field is mostly located in close proximity to the Santa Fe River and consists of 8 active wells located within the City of Santa Fe limits. Chlorine is used for disinfection and is applied for pathogenic microorganism reduction. Fluoride is added to the water supply and is not intended to improve raw water quality but benefit the community as recommended by public health professionals. The City's surface water supply is generated by runoff from the 17,000 acre Santa Fe watershed. The runoff drains into the Santa Fe River where it is stored at the McClure and Nichols Reservoir. The Canyon Road Water Treatment Plant treats surface water through a conventional filtration process which includes coagulation, flocculation, sedimentation and filtration.

### En Espanol

Este reporte contiene informacion importante sobre la calidad del agua en Santa Fe. Si tiene alguna pregunta o duda sobre este reporte puede hablarle a Gary Martinez al telefono 505.955.4370.

### Source Water Assessment and its Availability

In 2003 the New Mexico Environment Department (NMED) completed the Source Water Assessment for the City of Santa Fe. This assessment includes a determination of source water protection areas and an inventory of pollution sources within the areas of concern. NMED concluded: "The Susceptibility Analysis of the City 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 827-7536. The Santa Fe City Council built upon the recommendations in the Source Water Assessment and in early 2005 adopted the "Safe Drinking Water and Source Water Protection" and the "Stormwater Illicit Discharge Control" ordinances which provide additional controls and protections for the City's ground and surface water supplies.

### Why are there Contaminants in my Drinking Water?

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not

### Do I Need to Take Special Precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplant, 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).



# 2004 WATER QUALITY REPORT

## Results of Recent SMCL Voluntary Testing

Parameter	SMCL	City Well Field		Canyon Rd Plant		Buckman Well Field	
		Low	High	Low	High	Low	High
Aluminum (mg/l)	.05-0.2					0.21	0.014
Chloride (mg/l)	2.50	ND	1.8	2.5	27.48	2.68	7.8
Copper (mg/l)	1.0				<0.01	<0.006	0.063
Iron (mg/l)	0.3	ND	0.01		<0.05	ND	0.107
Manganese (mg/l)	0.05				<0.05	0.046	ND
pH	6.5-8.5	7.7	7.93	7.4	7.5	7.12	8.0
Silver (mg/l)	0.1				<.002		<0.005
Sulfate (mg/l)	250	ND	15.8	21.38	26	5	31
Total Dissolved Solids (TDS) (mg/l)	500	148	238	130	148	190	884
Zinc (mg/l)	5				<0.02	<0.005	0.058
Hardness (Ca & Mg) (mg/l)	NA	143	187	25.9	26	18.6	532

SMCL – Secondary Drinking Water Standard – monitoring recommended  
 ND – Not Detected; NA - Not Applicable; mg/l – milligrams per liter

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 [www.epa.gov/safewater](http://www.epa.gov/safewater). 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, which can be naturally occurring 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.

Los Alamos National Laboratory, conducted tests in the Buckman Wells Nos. 1, 2, and 8 for the following parameters: high explosives, perchlorate, strontium-90, tritium, general inorganics, and radiologicals. No perchlorate, high explosives, Sr-90, or tritium were present.

## 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

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.

## Monitoring Requirements

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During 2002-2004 the City of Santa Fe and the State of New Mexico Environmental Department did not complete all monitoring for cyanide and synthetic organic chemicals and therefore cannot be sure of the quality of our drinking water during that time. All previous sampling for these compounds indicated no violations of drinking water standards.

## Educational Statement for Arsenic

The City of Santa Fe's Drinking Water meets the current drinking water standard for arsenic of 50 µg/l. A new standard for arsenic in drinking water of 10 µg/l will go into effect in 2006.

Sampling conducted in 2004 indicated arsenic levels in the city drinking water below the new standard of 10 µg/l. While our drinking water meets EPA's standard for arsenic, it does contain low levels of arsenic. EPA's new standard balances the current understanding of arsenic's possible

Contaminant	Cyanide	Synthetic Organic Chemicals
Required Sampling Frequency	3 samples at one site and 1 sample each at 7 sites every three years (10)	2 samples each at 8 sites every three years (16)
Number of Samples Taken	9	15
When all Samples Should Have Been Taken	2002-2004	2002-2004
When Samples Were Taken	April 2005	April 2005

## Nitrates

City of Santa Fe 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. This value, which is ½ the standard, triggers an increase in sampling from once per year to 4 times per year. The City is in compliance with the nitrate standard. 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.

## Not Met

The table below lists the contaminants we did not properly test for during the last year, how often we are supposed to sample for these contaminants and how many samples we are supposed to take, how many samples we took, when samples should have been taken, and the date on which follow-up samples were taken.

organic matter. In a single sample collected in May of 2004 a level of 15µg/l for TTHMs was detected. The City remains in compliance with the TTHM MCL. Water treatment staff determined the elevated level was caused by an increase dosage of chlorine during startup of the Canyon Road facility. Because this sample was above the maximum contaminant level (MCL) of 80 µg/l the following statement is provided: "Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous system, and may have an increased risk of getting cancer."

## Lead and Copper Sampling

Tests for lead and copper are taken from customer taps located throughout the City. Lead and copper are present in home plumbing fixtures and pipes. If you are concerned about elevated lead levels in your home's water you may wish to have your water tested or you can flush your tap for 30 seconds to 2 minutes before using tap water. Flushed water can be and used to water plants.



## Contacts for Additional Information

If you have any questions, comments, or suggestions regarding this report, please contact Gary Martinez at 955-4370 or write to the above address. Feel free to call SDCW for information about the next opportunity for public participation in decision about our drinking water. For further information, consult the City of Santa Fe's Website at [www.ci.santa-fe.nm.us](http://www.ci.santa-fe.nm.us) or EPA at [www.epa.gov/safewater](http://www.epa.gov/safewater) or the Safe Drinking Water Hotline 800.426.4791.

## Important Drinking Water Definitions:

- AL:** Action Level. The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements, which a water system must follow.
- MCLG:** Maximum Contaminant Level Goal: 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.
- MCL:** Maximum Contaminant Level: 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.
- NTU:** Nephelometric turbidity unit is a measure of the turbidity of water.
- PPM:** Parts per million
- PPB:** Part per billion
- TT:** Treatment Technique, a required process intended to reduce the level of a contaminant in drinking water.

## 2004 WATER QUALITY TABLE Buckman Wellfield

In the table below, values are provided for all of the drinking water compounds that were detected in our water supply during the calendar year of this report or the most recent test if a sample was not analyzed in 2004. The compounds detected represent a small fraction of the substances that we test for. For example, we are required to test for over 80 contaminants. The presence of contaminants in the water does not necessarily indicate that the water poses a health risk. The EPA or the State requires us to monitor for certain contaminants less than once per year because concentrations of these contaminants do not change frequently. Key to Units, Terms and Abbreviations Included below City Well Field Table.

Contaminant (Units)	MCLG	MCL	2004 City Water Levels		2002-2004 Range		Sample Date	Violation	Typical Source
Inorganic Contaminants					Low	High			
Arsenic (ppb)	NA	50	6		6	10	26-Jan-04	No	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.
Barium (ppm)	2	2	0.1				25-Feb-03	No	Discharge from drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Cadmium (ppb)	5	5	ND				25-Feb-03	No	Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries; Runoff from waste batteries and paints.
Chromium [Total] (ppb)	100	100	5				25-Feb-03	No	Discharge from steel and pulp mills; Erosion of natural deposits.
Fluoride (ppm)	4	4	0.047		0.28	0.47	20-Mar-02	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nickel (ppb)	MNR	MNR	ND		ND	2.3	25-Feb-03	No	Erosion of natural deposits.
Nitrate [as N] (ppm)	10	10	10	1.3	0.99	1.3	23-Feb-04	No	Runoff from fertilizer use; Leaching from septic.
Selenium (ppb)	50	50	ND		ND	21	25-Feb-03	No	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.
Synthetic Organic Contaminants									
Di(2-ethylhexyl)adipate (ppb)	400	400	ND		ND	1.22	13-Dec-04	No	Discharge from chemical factories.
Di(2-ethylhexyl)phthalate (ppb)	0	6	ND		ND	2.19	13-Dec-04	No	Discharge from rubber and chemical factories.
Radioactive Contaminants									
Alpha Emitters (pCi/l)	0	15	9.09		7.5	23.4	01-Dec-04	No	Erosion of natural deposits.
Beta/Photon Emitters (pCi/l)	NA	NA	6.78		5.2	15.2	01-Dec-04	No	Decay of natural and man-made deposits. The EPA considers 50 pCi to be the level of concern for beta particles.
Radium 226/228 (pCi/l)	0	5	0.953		0.1	0.953	01-Dec-04	No	Erosion of natural deposits.
Uranium (ug/l)	0	30	7.53		7.53	47	01-Dec-04	No	Erosion of Natural Deposits.
Disinfectants & Disinfection By-Products									
Haloacetic Acids (HAA5s) (ppb)	NA	60	1.62		0.7	4.2	31-Dec-04	No	By-product of drinking water chlorination.
TTHMs [Total Trihalomethane] (ppb)	NA	80	3.8		3.5	15	31-Dec-04	No	By-product of drinking water chlorination.

A. Two confirmation samples submitted on 3/04 and 12/04 indicated ND for Benzene and Trichloroethene.  
**Units Description:** NA: Not Applicable; ND: Not Detected; 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; TT: A Treatment Technique standard was set instead of a Maximum Contaminant Level; Range: The range represents the high and low values. Range values are not given if only one sample was taken during the range period.