

# *2006 DRINKING WATER QUALITY REPORT*

## **Valley Municipal Utility District No. 2**

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*We're pleased to present to you with our 2006 Drinking Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. We are required by the Safe Drinking Water Act to prepare and deliver this report to you on an annual basis. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the continuing quality of your drinking water.*

*Valley MUD #2 has three sources of water. Approximately 50% of your water is surface water from the Rio Grande River. Another 30% comes from a well drilled on District property drilled into the Gulf Coast Aquifer. This water is treated with a reverse osmosis system before it is blended with water from the surface water plant and pumped into the distribution system. The remaining water comes from the Southmost Regional Water Authority, a regional groundwater desalinization plant similar in operation to our own Reverse Osmosis Plant.*

### ***Special Notice for the Elderly, Infants, Cancer Patients, People with HIV / Aids or other Immune Problems***

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 and Prevention (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)

## **YOUR DRINKING WATER IS SAFE**

The Texas Commission on Environmental Quality (TCEQ) monitors your water treatment processes and they have determined that your water meets all of the requirements stated in the Federal Drinking Water Standards.

If you have any questions about this report or any other issue concerning your water utility, please contact Robert Burkhart, General Manager at (956) 350-4136. We want you to be informed about our water quality. If you want to learn more, please attend any of our regularly scheduled meetings. Our next Board meeting is scheduled for July 17, 2007 at 9:00 AM. The Board meetings are held on the third Tuesday of every month at 9:00 AM.

All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It is important to remember that the presence of these constituents does not necessarily pose a health risk. Valley Municipal Utility District # 2 routinely monitors for constituents in your drinking water in accordance with Federal and State laws. The following tables shows the results of our monitoring for the period of January 1<sup>st</sup> to December 31<sup>st</sup>, 2006.

Many constituents (such as calcium, sodium, or iron), which are often found in drinking water, can cause taste, color, and odor problems. The taste and odor constituents are called secondary constituents and are regulated by the State of Texas, not the EPA. These constituents are not causes for health concerns. Therefore, secondary constituents are not required to be reported in this document but they may affect the appearance and taste of your water.

In the following table you will find many terms and abbreviations you might not be familiar with. To help

you better understand these terms we've provided the following definitions:

**Nephelometric Turbidity Unit (NTU)** - Nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

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

**Maximum Contaminant Level (MCL)** The “Maximum Allowed” 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.

**Maximum Contaminant Level Goal** - 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.

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

**Parts per million (ppm) or Milligrams per liter (mg/l)** - One part per million corresponds to one minute in two years or a single penny in \$10,000.

**Parts per billion (ppb) or Micrograms per liter** - One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

**Parts per trillion (ppt) or Nanograms per liter (nanograms/l)** - One part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

**Parts per quadrillion (ppq), or Picograms per liter** – One part per Quadrillion corresponds to one minute in 2,000,000,000 years or a single penny in \$10,000,000,000,000.

**Picocuries per liter (pCi/L)** - Picocuries per liter is a measure of the radioactivity in water.

**Millirems per year (mrem/yr)** - Measure of radiation absorbed by the body.

Valley Municipal Utility District monitors for 97 different constituents. In our latest tests, 31 constituents were found. The following tables list all of the constituents found in our drinking water:

### Lead and Copper

Year	Constituent	The 90th Percentile	Number of Sites exceeding Action Level	Action Level	Unit of Measure	Source of Constituent
2002	Copper	0.048	0	1.3	ppm	Corrosion of household plumbing systems, erosion of natural deposits, leaching from wood preservatives.
1999	Lead	1.200	0	15	ppb	Corrosion of household plumbing systems, erosion of natural deposits

### Turbidity

Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

Year	Constituent	Highest Single Measurement	Lowest Monthly % of Samples Meeting Limits	Turbidity Limits	Unit of Measure	Source of Constituent
2006	Turbidity	0.9	99.0%	0.3	NTU	Soil Runoff, algae

## Total Organic Carbon

Year	Average	Minimum	Maximum	Unit	
2005 Source Water	8.7	7.4	10.1	PPB	Naturally occurring, no known health effects. Can combine with other agents to form disinfection byproducts.
2005 Drinking Water	3.8	1.8	5.9	PPB	
2005 Removal Ratio	57	27	76	%	

## Other Organic Contaminants - None Detected

## Inorganics

Year**	Constituent	Average Level	Minimum Level	Maximum Level	MCL	MCLG	Unit of Measure	Source of Constituent
2002— 2006	Arsenic	3	3	4	10*	0*	ppb	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
2002— 2006	Barium	.083	0.077	.09	2	2	ppm	Discharge of drilling wastes; Discharge from metal refineries; erosion of natural deposits.
2006	Fluoride	0.31	0.26	0.36	4	4	ppm	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
2006	Nitrate	0.06	0	.11	10	10	ppm	Runoff from fertilizer use; Leaching from septic tank sewage; Erosion of natural deposits
2002 - 2006	Selenium	5.2	4.5	5.9	50	50	ppb	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines.
2006	Combined Radium 226 & 228	.19	0	.38	5	0	pCi/L	Erosion of Natural Deposits
2006	Gross Beta Emitters	3.55	3.1	4	50	0	pCi/L	Decay of natural and man – made deposits
2006	Gross Alpha Emitters	0.7	0	1.4	15	0	pCi/L	Erosion of Natural Deposits

\*These Arsenic values were effective January 23, 2006. Prior to this, the MCL is 50 ppb and there was no MCLG

\*\* Valley MUD # 2 is not required to test for all constituents every year because of the size of our community and the low occurrence in our water. The dates above indicate the year the most recent tests were run

## MAXIMUM RESIDUAL DISINFECTANT LEVEL

### Chlorine / Chloramine Residual

Valley MUD # 2 switched to chloramines for disinfection in the first quarter of 2004

2006	Average	Maximum Detected	Minimum Detected	MRDL	MRDLG	
Chloramine	2.2	7.1	0.5	4.0	<4.0	High Chlorine levels are associated with the formation of disinfection byproducts

## DISINFECTION BYPRODUCTS

Year	Contaminant	Average Level	Minimum Level	Maximum Level	MCL	Unit of Measure	Source of Contaminant
2006	Total Haloacetic Acids	5.7	5.7	5.7	60	ppb	Byproduct of Drinking Water Disinfection
2006	Total Trihalomethanes	8.8	8.8	8.8	80	ppb	Byproduct of Drinking Water Disinfection

## COLIFORMS

What are coliforms?

Coliform bacteria are used as indicators of microbial contamination of drinking water because they are easily detected and found in the digestive tract of warm blooded animals. While not themselves disease producers, they are often found in association with other microbes that are capable of causing disease. Coliform bacteria are more hardy than many disease-causing organisms; therefore their absence from water is a good indication that the water is bacteriologically safe for human consumption.

**The Total Coliform Rule requires water systems to meet a stricter limit for coliform bacteria. When coliform bacteria are found, special follow-up tests are done to determine if harmful bacteria are present in the water supply. If this limit is exceeded, the water supplier must notify the public by newspaper, television or radio.**

Fecal coliform (mostly E-coli), is a portion of the coliform bacteria group originating in the intestinal tract of warm-blooded animals that passes into the environment as feces. Fecal coliform is often used as an indicator of the fecal contamination of domestic water supply.

Valley MUD #2 had no positive tests for either total or fecal coliform bacteria in 2006.

## UNREGULATED CONTAMINANTS

Year	Constituent	Average of All Measuring Points	Range of Detected Levels	Reason for Monitoring
2003	Chloroform	5.330	5.33 – 5.33 ppb	Unregulated contaminant monitoring helps EPA to determine where certain contaminants occur and whether it needs to regulate those contaminants
2003	Bromoform	6.66	6.60 – 6.60 ppb	
2003	Bromodichloromethane	9.40	9.40 – 9.40 ppb	
2003	Dibromochloromethane	8.50	8.50 – 8.50 ppb	

### Secondary and other Non Regulated Contaminants

(No associated adverse health effects)

Year (Range)	Constituent	Average Level	Minimum Level	Maximum Level	Secondary Limit	Unit of measure	Source of Constituent
2002 - 2006	Aluminum	0.032	0	0.064	50	ppm	Abundant naturally Occurring Element
2006	Bicarbonate	75	72	78	NA	ppm	Corrosion of carbonated rocks such as limestone
2002 - 2006	Calcium	65.5	58.4	72.5	NA	ppm	Abundant Naturally Occurring Element
2006	Chloride	162	139	184	300	ppm	Abundant naturally occurring element; used in water purification; byproduct of oil field activity.
2002 - 2006	Copper	.031	0.005	0.056	1	ppm	Corrosion of household plumbing systems; erosion of natural deposits, leaching from wood preservatives
2006	Hardness as Ca/Mg	228	225	231	NA	ppm	Naturally occurring calcium and magnesium
2002 - 2006	Magnesium	23.2	20.8	25.5	NA	ppm	Abundant naturally occurring element
2002 - 2006	Manganese	0.0008	0	0.0017	0.05	ppm	
2006	pH average	7.6	7.3	7.8	7	units	Measure of corrosivity of water

Year (Range)	Constituent	Average Level	Minimum Level	Maximum Level	Secondary Limit	Unit of measure	Source of Constituent
2006	Sodium	147	146	148	NA	ppm	Erosion of natural deposits; byproduct of oil field activity
2006	Sulfate	200	185	214	300	ppm	Naturally occurring; common industrial byproduct; byproduct of oil field activity
2005	Total Alkalinity as CaCO <sub>3</sub>	75	72	78	NA	ppm	Naturally occurring soluble mineral salts
2006	Total Dissolved Solids	629	572	685	1000	ppm	Total Dissolved mineral constituents in water
2002	Total hardness as CaCO <sub>3</sub>	270	259	281	NA	ppm	Naturally occurring calcium
2002 -2006	Zinc	0.003	0	0.005	5	ppm	Moderately abundant naturally occurring element; used in the metal industry.

We have learned through monitoring and testing that some constituents have been detected in your water. The EPA has determined that your water IS SAFE at these levels.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

Lead: Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed or reduced.

EPA is reviewing the drinking water standard for arsenic because of special concerns that it may not be stringent enough. Arsenic is a naturally occurring mineral known to cause cancer in humans at high concentrations.

More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

## **CHANGES AT VALLEY MUNICIPAL UTILITY DISTRICT**

Starting in August, 2004, Valley MUD # 2 began to receive water from the new Southmost Regional Water Authority brackish water treatment plant located on FM 511. The District owns 2.5% of this plant and receives 180,000 gallons per day of Reverse Osmosis treated water from the plant.

In September 2005, the District began installing a pipeline to replace our dirt lined water supply canal from the Rio Grande. This has greatly improve our water transmission efficiency and allows us to maintain more consistent levels within the resaca system. This pipeline was complete and operational in August of 2006.

Roughly 80% of the water pumped from the Rio Grande by Valley MUD # 2 is used to maintain the levels in the Resaca system and for irrigation, both by the golf clubs, private homeowners and farm land within the District.. We encourage residents to conserve water as much as possible.

In December 2006, construction was completed on phase I of our collection system rehabilitation project. This project replaced 6 lift stations, 5 of which were located immediately adjacent to or in the street right of way with 2 modern lift stations located away from residential areas. Although expensive, difficult, and a major headache for the residents, the project has resulted in a more reliable wastewater collection system and reduced operational costs. We greatly appreciate the patience and cooperation of the residents of Pizarro, Cortez and Bolivar Avenues.

In April 2006, work began on the rehabilitation of our wastewater treatment plant on Hidalgo Avenue, behind the Circle K. This project will repair and upgrade our wastewater treatment plant, bringing it to current state design standards and improving its operational efficiency. This project is expected to be complete by August 2007.

Should you have any questions, please call us at (956) 350-4136.