

**PUBLIC WATER SUPPLY
DISTRICT NO. 5 OF GREENE COUNTY**

2005 ANNUAL WATER QUALITY REPORT

We're pleased to present to you this year's Annual Quality Water Report. This report is designed to inform you about the quality water and services we deliver to you every day. 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 quality of your water.

WE ARE HAPPY TO REPORT THAT PWSD #5 HAD NO VIOLATIONS IN 2005.

WHAT IS THE SOURCE OF MY WATER?

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater 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.

PWSD #5's water comes from Ground Water – 2 Deep Water Wells.

The Department of Natural Resources conducted an assessment of our source water to determine its susceptibility to contamination. The assessment is a three-step process of identifying an area around our wellheads, inventorying potential sources of contaminants, within that area (a one-half mile radius around the wellheads) and look at the adequacy of well construction. The assessment can be used to develop a wellhead protection program to protect this valuable resource. If you want to know more about the assessment or wish to participate on a watershed protection team to protect this valuable resource, then please go to www.dnr.mo.gov.

HOW MIGHT I BECOME MORE ACTIVELY INVOLVED?

If you have any questions about this report or concerning your water utility, please contact our office at 417-759-7066. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. The meetings are presently held on the second Monday of each month at 7:00 P.M., at the Water Supply Office at 113 S. Orchard (unless otherwise posted).

IS OUR WATER SYSTEM MEETING THE RULES THAT GOVERN OUR OPERATIONS?

The Missouri Department of Natural Resources regulates our water system and requires us to test our water on a regular basis to ensure its safety. Our system has been assigned the identification number MO5024230 for the purposes of tracking our test results. Last year we tested for a variety of contaminants. The detectable results of these tests are on the following pages of this report. Any violations of state requirements or standards will be further explained later in this report.

WHY ARE THERE CONTAMINANTS IN MY 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 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 Safe

Drinking Water Hotline (800-426-4791).

Contaminants that may be present in source water include:

- A. Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic tanks, agricultural livestock operations, and wildlife.
- B. Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- C. Pesticides and herbicides, which may come from a variety of sources such as agriculture, storm water runoff and residential uses.
- D. 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.
- E. 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, the Department of Natural Resources prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Department of Health regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

WHAT IS MY WATER SUPPLY DOING TO ASSURE ME OF SAFE DRINKING WATER?

Public Water Supply District No. 5 of Greene County routinely monitors for constituents in your drinking water according to Federal and State laws. The following table shows the results of our monitoring for the period of January 1st to December 31st, 2005. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

In the following table you will read about "maximum contaminant 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.

In this table you may find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:

- ◆ *Non-Detects (ND)* - laboratory analysis indicates that the constituent is not present.
- ◆ *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.
- ◆ *Picocuries per liter (PCI/L)* - picocuries per liter is a measure of the radioactivity in water.
- ◆ *Action Level* - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

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

◆ *Maximum Contaminant Level* -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.

◆ *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.

The state has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Records with a sample date more than one year old are still considered representative.

CONTAMINANTS REPORT

UNREGULATED CONTAMINANTS

Unregulated contaminants are those for which the EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Information on all the contaminants that were monitored for, whether regulated or unregulated, can be obtained from this water system or from the Department of Natural Resources.

INORGANIC	Units	Level Found	Range of Detection	Sample Year
NICKEL	ppm	0.705	Nd-1.41	2004

REGULATED CONTAMINANTS

<u>Inorganic</u>	Units	MCL	MCLG	Level found	Range of detections	Violation	Sample year	Sources
Barium, dissolved	ppm	2	2	0.1155	0.106-0.125	NO	2004	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Nitrate + Nitrite as N	ppm	10	10	0.0900	nd -0.18	NO	2005	Runoff from fertilizer use; Leaching from septic tanks; sewage; Erosion of natural deposits
<u>RADONUCLIDE*</u>	Units	MCL	MGCL	Level Found	Range of detections	Violations	Sample Year	
SAMPLE YEAR 2003	PCi/L	15	0	1.4000	1.4	NO	2003	

*Sources of Gross Alpha Particle Activity, Total.. Erosion of natural deposits.

COPPER

Collection Period	Units	Action Level	90 th Percentile	Sites Exceeding AL	Sources
1/1/2004 –	ppm	AL=1.3	0.060	NONE	Corrosion of household

12/31/2004					plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
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Lead

Collection period	Units	Action Level	90 th Percentile	Sites exceeding AL	Sources
1/1/2004 – 12/31/2004	ppb	AL=15	6.250	0	C orrosion of household plumbing systems; Erosion of natural deposits

COLIFORM

The MCL for total coliform is determined by the number of samples taken per month. Systems that collect less than 40 samples per month are in violation if more than one sample tests positive. Systems that collect more than 40 samples per month are in violation if 5% or more of the samples test positive.

# Positive Samples	% Positive Samples	Month	Violation	Sources
0	0	0	NO	Naturally present in the environment

FECAL COLIFORM

# Positive Samples for year	Violation	Sources
0	NO	Naturally present in the environment

VIOLATIONS AND HEALTH EFFECTS

Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

PUBLIC WATER SUPPLY DIST. NO. 5 HAD NO MCL, MONITORING, OR TREATMENT VIOLATIONS DURING 2005.

Public Water Supply District No. 5 of Greene County has a chlorinated water supply. Fluoride is not added to our water. Our water is carefully tested according to DNR regulations. Each year in July you are billed a Primacy Fee which is paid directly to the state to cover the cost of this testing.

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.

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional

information is available from the Safe Drinking Water Hotline (1-800-426-4791).

We constantly monitor the water supply for various constituents. We have detected radon in the finished water supply in some samples tested. There is no federal regulation for radon levels in drinking water. Exposure to air transmitted radon over a long period of time may cause adverse health effects.

What does this mean?

The table shows that our system had no violations in 2005. There are no listed potential adverse health effects for coliform, but it could indicate that there are other potentially harmful bacteria present. We closely monitor the use of chlorination in the system and requiring that any work done on the water system (such as repair on the lines or pumps or installation of new lines) must be tested before putting it back online.

All sources of drinking water are subject to potential contamination by constituents that are naturally occurring or are man made. Those constituents can be microbes, organic or inorganic chemicals, or radioactive materials. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. 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.

Total Coliform: The Total Coliform Rule requires water systems to meet a stricter limit for coliform bacteria. Coliform bacteria are usually harmless, but their presence in water can be an indication of disease-causing 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. To comply with the stricter regulation, we have increased the average amount of chlorine in the distribution system.

Nitrates: As a precaution we always notify physicians and health care providers in this area if there is ever a higher than normal level of nitrates in the water supply.

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, replaced or reduced.

OPTIONAL MONITORING (not required by the EPA)

MONITORING IS NOT REQUIRED FOR OPTIONAL CONTAMINANTS

INORGANIC	UNITS	LEVEL FOUND	RANGE OF DETECTIONS	SAMPLE YEAR
CALCIUM, dissolved	ppm	42.8500	42 – 43.7	2004
SULFATE	ppm	16.3000	46.3	2004
Hardness as CaCO3	ppm	204.5000	201-208	2004
IRON, DISSOLVED	ppb	342.5000	Nd-685	2001
MAGNESIUM	ppm	23.6000	23.3 – 23.9	2004
MANGANESE	ppb	2.2650	nd-4.53	2004
pH		7.7950	7.7-7.89	2004
POTASSIUM	ppm	1.1950	1.12-1.27	2004
SODIUM	ppm	2.7400	2.24-3.24	2004

Alkalinity, TOTAL	ppm	197.0000	192-202	2004
Total Dissolved Solids (TDS)	ppm	260.0000	258-262	2004
ZINC	ppb	8.2400	4.28-12.2	2004

WHAT IS MY WATER SYSTEM DOING TO PREPARE FOR THE FUTURE?

In our continuing efforts to maintain a safe and dependable water supply, we recently updated the GPS mapping of the water system. In an effort to keep our water supply as safe as possible from outside sources such as vandals, etc., the well houses and the storage tanks are now fenced and posted, and the gates to those facilities are kept locked at all times providing very limited access.

Public Water Supply District No. 5 moved into the new Water Supply office in September of 2005. You are welcome to come by and see it. The method of making regular monthly payments has not changed—please make payments by mail or at any bank in Fair Grove.

The rates each customer pays for water are reviewed annually. Your water supply is very sound financially. You might like to know that the cost of our water is below the state average for a system of our size. PWSD #5 has slightly more than 600 residential and commercial accounts.

At the present time we are in the process of converting our meter system to radio read meters. This update will insure accuracy of meter reading as well as lessen the amount of time needed to read the meters. About 1/3 of the meters have been converted at this time.

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/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791). Please call our office at 759-7066 if you have questions.

We at Public Water Supply District No. 5 of Greene County, the employees and your board of directors, work hard to provide top quality water to every tap. We ask all of our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future. If you see something suspicious near any of our facilities, please alert our office or the local authorities.