

# Grayson Utilities Commission Water Quality Report

January 1 through December 31, 2005

PWSID # 0220164

We are pleased to present this Annual Water Quality Report. This report is designed to inform the public about the quality of water and services provided on a daily basis. Our commitment is to provide our customers with a safe, clean, and reliable supply of drinking water. We would like the public to be assured that we will continue to monitor, improve, and protect the water system and deliver a high quality water direct from the tap. We know that water is the most indispensable product in every home and we ask everyone to be conservative and help us in our efforts to protect the water source and the water system. Please report any activity that might jeopardize the water supply.

The source of your drinking water is the Little Sandy River which is a surface water source. The area around the river is mostly residential but also contains agricultural. An analysis of the susceptibility of the Commission's water supply is generally moderate. Areas of high concern within the first protection zone of the intake consist of bridges and culverts. In and of themselves, bridges do not represent a danger to the environment. It is the potential for a chemical spill resulting from accidents that earn them a higher susceptibility ranking. Agricultural activity in this watershed is negligible and, therefore, the use of pesticides and herbicides and the danger of runoff contaminated thereby is greatly reduced.

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

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 can pick up substances resulting from the presence of animals or from human activity. Microbial contaminants, such as viruses and bacteria, (sewage plants, septic systems, livestock operations, or wildlife). Inorganic contaminants, such as salts and metals, (naturally occurring or from stormwater runoff, wastewater discharges, oil and gas production, mining, or farming). Pesticides and herbicides, (stormwater runoff, agriculture or residential uses). Organic Chemical Contaminants, including synthetic and volatile organic chemicals, (by-products of industrial processes and petroleum production, or from gas stations, stormwater runoff, or septic systems). Radioactive contaminants, (naturally occurring or from oil and gas production or 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. FDA regulations establish limits for contaminants in bottled water to provide the same protection.

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

**Some or all of these definitions may be found in this report:**

**Maximum Contaminant Level (MCL)** - 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 (MCLG)** - 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.

**Maximum Residual Disinfectant Level (MRDL)** - the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Maximum Residual Disinfectant Level Goal (MRDLG)** - the level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**Below Detection Levels (BDL)** - laboratory analysis indicates that the contaminant is not present.

**Not Applicable (N/A)** - does not apply.

**Parts per million (ppm)** - 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, (µg/L).** One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

**Parts per trillion (ppt)** - 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)** - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.

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

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

**Million Fibers per Liter (MFL)** - a measure of the presence of asbestos fibers that are longer than 10 micrometers.

**Nephelometric Turbidity Unit (NTU)** - a measure of the clarity of water. Turbidity has no health effects. However, turbidity can provide a medium for microbial growth. Turbidity is monitored because it is a good indicator of the effectiveness of the filtration system.

**Variations & Exemptions (V&E)** - State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

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

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

<p><b>Questions?</b></p> <p style="text-align: center;"><b>System Manager</b> Gerald W. Haney (606) 474-7569 671 South State Highway 7, Grayson, Kentucky 41143</p>	<p style="text-align: center;"><b>CCR Contact</b> Gerald W. Haney (606) 474-7569</p>	<p><b>Wish to attend our meetings? Regular meetings are held:</b> the last Thursday of the Month 6:30 PM William J. Lewis Utility Maintenance Building</p>
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**Spanish (Español)** Este informe contiene información muy importante sobre la calidad de su agua beber. Tradúzcalo o hable con alguien que lo entienda bien.

The data presented in this report are from the most recent testing done in accordance with administrative regulations in 401 KAR Chapter 8. As authorized and approved by EPA, 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. Some of the data in this table, though representative, may be more than one year old. Unless otherwise noted, the report level is the highest level detected.

	Allowable Levels	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source
Turbidity (NTU) TT * Representative samples of filtered water	No more than 1 NTU* Less than 0.3 NTU in 95% of monthly samples	0.3	100	No	Soil runoff

#### Regulated Contaminant Test Results

Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
Copper [1022] (ppm) sites exceeding action level 1	AL = 1.3	1.3	0.13 (90 <sup>th</sup> percentile)	0.01 to 3.03	Sep-03	No	Corrosion of household plumbing systems
Fluoride [1025] (ppm)	4	4	1.2	0.8 to 1.2	Feb	No	Water additive which promotes strong teeth
Lead [1030] (ppb) sites exceeding action level 1	AL = 15	0	9 (90 <sup>th</sup> percentile)	1 to 36	Sep-03	No	Corrosion of household plumbing systems
Nitrate [1040] (ppm)	10	10	0.1	0.1 to 0.1	Mar-05	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite [1041] (ppm)	1	1	0.01	0.01 to 0.01	Mar-05	No	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

#### Disinfectants/Disinfection Byproducts and Precursors

Total Organic Carbon (ppm) (measured as ppm, but reported as a ratio)	TT*	N/A	0.96 (lowest average)	0.52 to 1.03 (monthly ratios)	N/A	Yes	Naturally present in environment.
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\*Monthly ratio is the % TOC removal achieved to the % TOC removal required. Annual average of the monthly ratios must be 1.00 or greater for compliance.

Bromate (ppb)	10	0		to			Byproduct of drinking water chlorination
Chloramines (ppm)	MRDL = 4	MRDLG = 4	(highest average)	to	N/A		Water additive used to control microbes.
Chlorine (ppm)	MRDL = 4	MRDLG = 4	1.22 (highest average)	0.50 to 2.00	N/A	No	Water additive used to control microbes.
Chlorite (ppm)	1	0.8	0.000 (average)	0.00 to 0.00			Byproduct of drinking water disinfection.
Chlorine dioxide (ppb)	MRDL = 800	MRDLG = 800	0	0 to 0			Water additive used to control microbes.
HAA (ppb) [Haloacetic acids]	60	N/A	35 (highest average)	2 to 69	N/A	No	Byproduct of drinking water disinfection
TTHM (ppb) [total trihalomethanes]	80	N/A	46 (highest average)	0.5 to 80.2	N/A	No	Byproduct of drinking water disinfection.

We received a drinking water standard violation in December 2005. We did not meet the treatment technique ratio, for Total Organic Carbon (TOC). TOC Compliance is based on a ratio of the percentage of TOC removal achieved to the percentage of TOC removal required. The ratio must be greater than 1.00 or greater for compliance to be achieved. The average level of Total Organic Carbon over the last quarter of 2005 was 0.96. In late November 2005, The Utilities Commission replaced the media in our gravity filters. Typically, with replacement of filter media there is a transition period before the new media begins to optimize its performance results. The sample taken in December 2005 was during this transition period and resulted in the level not being in compliance. This low value impacted our first quarter of 2006 results as well. The ratio must be greater than 1.00 or greater for compliance to be achieved. The average level of Total Organic Carbon over the first quarter of 2006 was 0.99. We anticipate returning to quarterly compliance during the 2nd Quarter of 2006.