



# Winchester Municipal Utilities

## DRINKING WATER QUALITY REPORT 2007

150 North Main Street  
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### BACKGROUND INFORMATION ABOUT WMU

The Winchester Municipal Utilities (WMU) is pleased to provide its Drinking Water Quality Report for 2007. The report is designed to inform you about the quality of your drinking water and is based on monitoring and test results for the year January 1 through December 31, 2006. Water treatment is a complex and highly regulated activity. WMU strives to continually improve the quality of its drinking water and of the many other utility services provided to you, our customer.

WMU's raw (untreated) water sources are the Kentucky River and the Carroll E. Ecton Reservoir, which are surface water sources. The Kentucky River supplied 77% of the water treated in 2006. The remainder, or 23%, was obtained from the Carroll E. Ecton Reservoir. WMU treated 1,431,447,364 gallons of water during 2006 from these sources.

The water treatment plant has a rated maximum treatment capacity of 4.9 million gallons per day (MGD). WMU has been granted interim authority by the Kentucky Division of Water to increase treatment output to 6.0 MGD while continuing to meet all water quality standards. WMU operates its water treatment plant 24 hours per day, 365 days per year. The treatment process utilizes conventional flocculation, sedimentation, high-rate filtration, and disinfection.

WMU provides water service to a customer base of 11,631 direct customers and through water sold for resale, to 2,318 customers of the East Clark County Water District and 215 customers of the Kentucky American Water Company. In total, WMU serves 14,164 water customers in Clark County. WMU has been experiencing growth in its direct customer base of over 200 customers per year in recent years. This growth, along with increasing regulatory requirements demand that WMU address the potable water supply to continue to provide high quality drinking water to you, our customer.

### SUMMARY OF 2006 WATER QUALITY

WMU routinely monitors for contaminants in your drinking water according to Federal and State regulations. The following table provides the results of our monitoring averages for the period of January 1 through December 31, 2006. Important notes and explanatory definitions are provided at the end of the table.

### DETECTED CONTAMINANTS

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.

The Winchester Municipal Utilities (WMU), your drinking water provider, works around the clock to provide top quality drinking water and outstanding water utility services to every consumer. This Drinking Water Quality Report provides you with information regarding your drinking water. For additional information, call Vernon Azevedo, General Manager, at 744-5434.

Este informe contiene informacion importante acerca de su agua potable. Haga que alguien lo traduzca para usted, o hable con alguien que lo entienda.

Website: [www.wmutilities.com](http://www.wmutilities.com)

	Allowable Levels	Highest Single Measurement	Lowest Monthly %	Violation	Likely Source of Contamination		
Turbidity (NTU)	No more than 1 NTU Less than 0.3 NTU in 95% of monthly samples	0.35	99	No	Soil runoff		
<b>Regulated Contaminant Test Results</b>							
Contaminant [code] (units)	MCL	MCLG	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
<b>Radioactive Contaminants</b>							
Alpha emitters [4000] (pCi/L)	15	0	1.1	0 to 1.1	May-02	No	Erosion of natural deposits
Combined radium (pCi/L)	5	0	0.8	0.7 to 0.8	Apr-02	No	Erosion of natural deposits
<b>Inorganic Contaminants</b>							
Barium [1010] (ppm)	2	2	0.015	0.015 to 0.015	Apr-06	No	Drilling wastes; metal refineries; erosion of natural deposits
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	0.05 (90 <sup>th</sup> percentile)	0.005 to 0.1	Oct-04	No	Corrosion of household plumbing systems
Fluoride [1025] (ppm)	4	4	1.4	0.59 to 1.4	Jun	No	Water additive which promotes strong teeth
Lead [1030] (ppb)	AL= 15	0	5 (90 <sup>th</sup> percentile)	0 to 10	Oct-04	No	Corrosion of household plumbing systems
<b>Disinfectants/Disinfection Byproducts and Precursors</b>							
Total Organic Carbon (ppm)	TT*	N/A	0.97 (lowest average)	0.57 to 1.78 (monthly ratios)	N/A	Yes	Naturally present in environment
Chlorine (ppm)	MRDL = 4	MRDLG = 4	1.19 (highest average)	0.20 to 11.50	N/A	No	Water additive used to control microbes.
HAA (ppb) [Haloacetic acids]	60	N/A	39 (highest average)	12 to 62	N/A	No	Byproduct of drinking water disinfection
TTHM (ppb) [total trihalo-methanes]	80	N/A	68 (highest average)	13 to 94	N/A	No	Byproduct of drinking water disinfection.

### OTHER TESTS

WMU regularly tests your drinking water for 77 other primary standards, 16 secondary standards, and other standards for which results were found to be within acceptable levels. In order to make this report easier to read and understand, results of those tests are not reported here.

### VIOLATIONS

During 2006, the water system received violations for exceeding the standards for disinfection byproducts and disinfection byproduct precursors.

For the four quarters ending on 6/30/06, the water system failed to meet the required removal ratio for Total Organic Carbon (TOC). The standard for TOC is 1.00. The average level of TOC during that period was 0.96 and therefore a violation. In several tests, the TOC level in the finished water tested higher than the TOC level in the raw water. Although processing methods at the water treatment plant do not add TOC to the finished water, the test results indicated that the TOC level increased during processing. Quality control procedures have been established to eliminate this problem in the future and we are working with the state and our contract lab to ensure that all drinking water standards are being met. Total organic carbon, or TOC, has no health effects. However, TOC provides a medium for the formation of disinfection byproducts. These byproducts include trihaloethanes, or THMs, and haloacetic acids, or HAAs. Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.

Maximum Contaminant Levels (MCL) are set at very stringent levels. To understand the possible health effects described for many regulated contaminants, a person would have to drink two 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.

Also, during 2007 the water system violated one or more drinking water standards over the past year. Even though these were not emergencies, as our customers, you have a right to know what happened and what we did to correct these situations. 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 the specified time period(s), we did not monitor or test, or did not complete all monitoring or testing for the contaminant(s) and therefore cannot be sure of the quality of our drinking water during that time.

## REPORTING REQUIREMENTS

The United States Environmental Protection Agency (EPA) requires that every water system provide consumers with an annual consumer confidence or water quality report as a result of the Safe Drinking Water Act Amendments of 1996. The report is intended to provide consumers with information regarding the quality of their drinking water and to encourage actions by consumers to protect drinking water supplies. WMU is providing you with this report so that you might be better informed about the quality of your drinking water.

## IMPORTANT DEFINITIONS

### MCL - Maximum Contaminant Level

The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLG as feasible using the best available treatment technology.

### 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.

**MRDL - Maximum Residual Disinfectant Level** 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.

### MRDLG - Maximum Residual Disinfectant Level Goal

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.

### ND or N/A

Not detected; does not apply; not available

### NTU - Nephelometric Turbidity Units

A measure of water turbidity. Turbidity is monitored because it is a good indicator of the effectiveness of the filtration system.

### pCi/l - Picocuries per Liter

A unit of measure of radioactivity.

### ppm - Parts per Million

A unit of measure; equal to milligrams per liter (mg/L).

### ppb - Parts per Billion

A unit of measure; equal to micrograms per liter (ug/L).

### Primary Standards

Mandatory standards established and enforced by EPA and the Kentucky Division of Water that relate to water quality health effects and for which monitoring is required.

### TT - Treatment Technique

A required process intended to reduce the level of a contaminant in drinking water.

### AL - Action Level

That concentration of a contaminant, which, if exceeded, triggers treatment or other requirements, which a water system must follow.

## CRYPTOSPORIDIUM

WMU has voluntarily tested its source water supplies and its finished (treated) water for the presence of *Cryptosporidium*. Cryptosporidium is a microbial parasite which is found in surface waters throughout the United States and has been found to be present in both the Kentucky River and the Carroll E. Ecton Reservoir. **Cryptosporidium has not been detected in WMU drinking water.** Although conventional treatment can remove cryptosporidium, commonly used sedimentation and filtration methods cannot guarantee 100% removal. Symptoms of Cryptosporidium infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals are able to overcome the infection within a few weeks. However, immunocompromised people have more difficulty and are at greater risk of developing severe, life-threatening illness.

### WHY ARE THERE CONTAMINANTS IN 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 necessarily indicate that water poses a health risk. More information about contaminants and potential health effects may be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at (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, in some cases, radioactive material, and may pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water before treatment include:

- *Microbial contaminants*, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock, and wildlife.

- *Inorganic contaminants*, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

- *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, stormwater runoff, and residential uses.

- *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 stormwater 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, the EPA and the Kentucky Division of Water prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. EPA has determined that drinking water is safe at these levels.

## 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 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 and the 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 at (800) 426-4791.

## SOURCE WATER ASSESSMENTS

Following is a summary of the system's susceptibility to contamination, which is a part of the completed Source Water Assessment Plan (SWAP). The completed plan is available for inspection at WMU, 150 N. Main Street. An analysis of the susceptibility of the Winchester water supply to contamination indicates that this susceptibility is generally moderate. However, there are a few areas of high concern. Several highway bridges, a segment of railroad, areas of row crops, three active Superfund Sites, three solid waste generators and/or transporters, and impaired streams occur in the immediate area of Winchester's Kentucky River intake. An accidental release of toxic materials from a bridge or railroad could pose an immediate threat to Winchester's Kentucky River intake. There are numerous permitted operations and activities and other potential contaminant sources of moderate concern within the watershed that cumulatively increase the potential for the release of contaminants within the area. These potential contaminant sources include everything from large capacity septic systems, to major roads, to underground storage tanks, to Tier II hazardous chemical users.

## SECURITY

WMU is concerned about the security of our water system. To further ensure the integrity of our water infrastructure and the quality of water delivered to our customers, WMU completed a system-wide Vulnerability Assessment (VA) and Emergency Response Plan (ERP). The VA and ERP are designed to identify potential threats to our system, to minimize the potential for those threats, and to prepare the utility to respond should an event occur.

## WATER SUPPLY

Potable (drinking) water supply remains a priority issue for WMU. Current regulations require that growth to a water system be restricted when capacity reaches 80% of rated capacity unless capacity upgrades are underway. For WMU that translates to restrictions at 4.8 million gallons per day (MGD). Considering present day demands of 4.0 MGD, WMU has available potable water capacity to serve until the year 2011 or 2012. This available water supply is limited by the location of Sekisui in the industrial park as Sekisui has requested an additional 1.6 MGD in the year 2009 or 2010.

The WMU Commission is evaluating alternatives for potable water supply to meet the needs of its existing customers, Sekisui, and other potential residential, commercial and industrial customers. Options under consideration include:

- Purchase of water from the Bluegrass Water Supply Commission
- Purchase of water from Kentucky American Water Company
- Construction of a new water treatment plant

In addition to the capacity issues, WMU must plan for additional water quality regulations now being promulgated by EPA.

## INFORMATION AND PUBLIC INPUT

If you have questions regarding the information provided in this report or about utility services provided by WMU, please contact Vernon Azevedo, General Manager, at (859) 744-5434. We want you to be informed about the drinking water quality and the utility services provided by WMU.

WMU operates as an enterprise fund of the city of Winchester. Regular public meetings of the WMU Commission are held on the first and third Thursdays of each month at 6:00 p.m. at the WMU administrative offices located at 150 North Main Street, Winchester. The regular meeting agenda for each meeting provides an opportunity for public comment regarding WMU services and operations. The WMU Commission is comprised of local community leaders who are WMU customers and who are very interested in your input. You are invited to avail yourself of this opportunity for public input.

## DID YOU KNOW?

- WMU is the only water utility in central Kentucky to have two raw water supplies capable of sustaining water system demands for an extended period of time without a significant rainfall event.
- WMU is near completion of a new 7.2 MGD wastewater treatment plant that will cost approximately \$23.8 million.
- WMU's average day water production is 4.0 million gallons per day (MGD).
- WMU treats an average of 4.0 million gallons per day of wastewater.
- WMU produces and distributes on agricultural land 120 tons of Class A biosolids each day.
- WMU collects and transports for landfill disposal an average of 66 tons of solid waste each day.
- WMU diverts from landfill disposal 11 tons of yardwaste each day.
- WMU's residential heavy trash truck makes 33 service calls per day.
- WMU maintains over 155 miles of waterlines, 140 miles of sanitary sewer lines, and 19 pump stations.