



# KEWANEE ANNUAL WATER QUALITY REPORT FOR CALENDAR YEAR 2009 FACILITY IL-0730650

I l l i n o i s

Este informe contiene información muy importante sobre el agua que usted bebe. Tradúzcalo o hable con alguien que lo entienda bien.

This report is intended to provide you with important information about your drinking water and the efforts made by the Kewanee water system to provide safe drinking water. As begun in 2005, Kewanee's water system continues to provide high quality water treated with reverse osmosis filtration. The source of drinking water used by Kewanee is Ground Water. If you have any questions about this report, or questions concerning your water system, please contact, Kip Spear, City Manager, 852-2611 extension 232.

## SOURCE WATER ASSESSMENT SUMMARY

Based on information obtained in a Well Site Survey published in 1995 by the Illinois EPA, several potential secondary sources are located within 1,000 feet of the wells. The Illinois EPA has determined that the Kewanee Community Water Supply's source water is not susceptible to contamination. This determination is based on a number of criteria including; monitoring conducted at the wells; monitoring conducted at the entry point to the distribution system; and available hydrogeologic data on the wells.

Furthermore, in anticipation of the U.S. EPA's proposed Ground Water Rule, the Illinois EPA has determined that the Kewanee Community Water Supply is not vulnerable to viral contamination. This determination is based on the evaluation of the following criteria during the Vulnerability Waiver Process: the community's wells are properly constructed with sound integrity and proper siting conditions; a hydrogeological barrier exists which should prevent pathogen movement; all potential routes and sanitary defects have been mitigated such that the source water is adequately protected; monitoring data did not indicate a history of disease outbreak; and the sanitary survey of the water supply did not indicate a viral contamination threat. Because the community's wells are constructed in a confined aquifer, which should prevent the movement of pathogens into the wells, well hydraulics were not considered to be a significant factor in this determination. Hence, well hydraulics were not evaluated for this system's ground water supply.

## SOURCE WATER PROTECTION EFFORTS

The Illinois Environmental Protection Act provides minimum protection zones of 200 feet for your wells. These minimum protection zones are regulated by the Illinois EPA. To further reduce the risk to source water, the water supply has implemented a wellhead protection program which includes the proper abandonment of potential routes of groundwater contamination and correction of sanitary defects at the water treatment facility. This effort resulted in the Kewanee community water supply receiving a special exception permit from the Illinois EPA which allows a partial reduction in monitoring. The outcome of this monitoring reduction has saved the community considerable laboratory analysis costs. As authorized by the Illinois Environmental Protection Act, Kewanee enacted a "maximum setback zone ordinance" for all five wells which allows county and municipal officials the opportunity to provide additional potential source prohibitions up to 1,000 feet from their wells.

We want our valued customers to be informed about their water quality. If you would like to learn more, please feel welcome to attend any of our regularly scheduled City Council meetings. The source water assessment for our supply has been completed by the Illinois EPA. If you would like a copy of this information, please call (852-2611), or stop by City Hall. To view a summary version of the completed Source Water Assessments, including: Importance of Source Water/ Susceptibility to Contamination Determination; and documentation/recommendation of Source Water Protection Efforts, you may access the Illinois EPA website at <http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl>.

## GENERAL INFORMATION

1. 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 EPA's Safe Drinking Water Hotline (1-800-426-4791).
2. 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 microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).
3. 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 can dissolve naturally-occurring minerals

and, in some cases, radioactive materials, and can pick up substances resulting from the presence of animals or human activity. Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations 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, urban 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; and
  - Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.
4. In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

## **VIOLATIONS, VARIANCES, EXCEPTIONS**

### **A. Special Exception Permit Triggered Source Water Monitoring requirement.**

Due to the most reasonably available information concerning aquifer type, sampling history, and integrity of wells, a Special Exception Permit (SEP) was issued to the Triggered Source Water Monitoring (TSWM) requirements of the Ground Water Rule taking effect December 1, 2009. This SEP exempts the system from having to collect a follow-up sample within 24 hours from active wells in the event a monthly routine distribution coliform sample is total coliform-positive.

### **B. Special Exception Permit Vulnerability Waiver**

Due to favorable monitoring history, aquifer type, and an inventory of any potential routes of contamination, on June 10, 2008 Kewanee's water supply received a renewal of the Special Exception Permit granting a Vulnerability Waiver from monitoring for volatile and/or synthetic organic chemicals (VOC's & SOC's), and cyanide. This Special Exception Permit covers the period from January 1, 2008 through December 31, 2010. Treatment Point 01 has a waiver from testing during this time period for SOC's and cyanide. Treatment Point 01 will continue to be monitored for VOC's in the fourth quarter of each year. Treatment Point 03 has a waiver from testing during this time period for SOC's, VOC's, and cyanide.

### ***2009 Regulated Contaminants Detected***

In addition to the proceeding information sections, included for your review is a table to give you a better picture of the contaminants that were detected in your water.

Definitions: The following tables contain scientific terms and measures, some of which may require explanation.

**Action Level Goal (ALG):** The level of a contaminant in drinking water below which there is no known or expected risk to health. ALG's allow for a margin of safety.

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

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the Maximum Contaminant Level Goal 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. MCLG's allow for a margin of safety.

**mg/l:** milligrams per liter or parts per million (ppm) - or one ounce in 7,350 gallons of water.

**ug/l:** micrograms per liter or parts per billion (ppb) - or one ounce in 7,350,000 gallons of water.

**na:** not applicable.

**Avg:** Regulatory compliance with some MCLs is based on running annual average of monthly samples.

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

**Maximum Residual Disinfectant Level Goal (MRDLG):** The level of disinfectant in drinking water below which there is no known or expected risk to health. MRDLG's allow for a margin of safety. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**ppm:** parts per million; **ppb:** parts per billion; **ppt:** parts per trillion; **pCi/l:** picoCuries per liter (measurement of radioactivity)

#### **Coliform Bacteria**

Maximum Contaminant Level Goal	Total Coliform Max. Contaminant Level	Highest No. of Positive	Fecal Coliform or E. Coli Maximum Contaminant Level	Total No. of Positive E. Coli or Fecal Coliform Samples	Violation	Likely Source of Contamination:
0	1 positive monthly sample	1	Fecal Coliform or E. Coli MCL: A routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or E. Coli positive.	0	No	Naturally present in the environment

**Lead and Copper** Sample Date June 2009

Lead MCLG	Lead Action Level (AL)	Lead 90 <sup>th</sup> Percentile	# Sites Over Lead AL	Violation	Likely Sources of Contamination:
0 ppb	15 ppb	14 ppb	3	No	Erosion of natural deposits; Corrosion of household plumbing systems
Copper MCLG	Copper Action Level (AL)	Copper 90 <sup>th</sup> Percentile	# Sites Over Copper AL	Violation	Likely Sources of Contamination:
1.3 ppm	1.3 ppm	0.028 ppm	0	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

*Regulated Contaminants*

CONTAMINANT	COLLECTION DATE	HIGHEST LEVEL DETECTED	RANGE OF LEVELS DETECTED	UNIT OF MEASUREMENT	MCLG	MCL	VIOLATION?
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*Disinfectants & Disinfection By-Products*

<b>Total Haloacetic Acids (HAA5)</b>	various	2.3	0 – 2.3	ppb	N/A	60	No
Likely Source of Contamination: By-product of drinking water chlorination. Not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future.							
<b>TTHMs(Total Trihalomethanes)</b>	various	3	0 – 9	ppb	N/A	80	No
Likely Source of Contamination: By-product of drinking water chlorination. 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 systems, and may have an increased risk of getting cancer. Not all sample results may have been used for calculating the Highest Level Detected because some results may be part of an evaluation to determine where compliance sampling should occur in the future.							
<b>Chlorine</b>	various	2.49	0.02-2.49	ppm	MRDLG=4	MRDL=4	No
Likely Source of Contamination: Water additive used to control microbes.							

*Inorganic Contaminants*

<b>Arsenic</b>		2.3	1.2 – 2.3	ppb	0	10	No
Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes.							
<b>Barium</b>		0.0039	0.0027 – 0.0039	ppm	2	2	No
Likely Source of Contamination: Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.							
<b>Chromium</b>		5	0 – 5	ppb	100	100	No
Discharge from steel and pulp mills; Erosion of natural deposits.							
<b>Fluoride</b>		0.98	0.96-0.98	ppm	4	4.0	No
Likely Source of Contamination: Erosion of natural deposits; Water additive which promotes strong teeth; Fertilizer discharge.							
<b>Nitrate (As N)</b>		0.29	0.28-0.29	ppm	10	10	No
Likely Source of Contamination: Run-off from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.							

*Radioactive Contaminants*

<b>Gross Alpha excluding radon and uranium</b>	7/18/2006	2.9	1.2-2.9	pCi/L	0	15	No
Likely Source of Contamination: Erosion of natural deposits.							
<b>Beta/photon Emitters</b>	2/24/2005	5.51	5.51 – 5.51	mrem/yr	0	4	No
Likely Source of Contamination: Decay of natural and man-made deposits.							
<b>Beta/photon Emitters</b>	2/24/2005	5.51	5.51 – 5.51	mrem/yr	0	50	No
Likely Source of Contamination: Decay of natural and man-made deposits.							
<b>Combined Radium</b>	7/18/2006	1.6	1.4-1.6	pCi/L	0	5	No
Likely Source of Contamination: Erosion of natural deposits.							

Note: The state requires monitoring of certain contaminants less than once per year because the concentrations of these contaminants do not change frequently. Therefore, some of this data may be more than one year old.