

# Annual Drinking Water Quality Report

## CORTLAND

IL0370051

Annual Water Quality Report  
For the period of January 1 to December 31, 2005

This report is intended to provide you with important information about your drinking water and the efforts made by the CORTLAND water system to provide safe drinking water. The source of drinking water used by CORTLAND is Ground Water.

For more information regarding this report, contact:

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

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### Source of Drinking 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.

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 at 800-426-4791.

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 storm water 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 storm water 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 storm water 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, 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 which must provide the same protection for public health.

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 (800-426-4791).

### Source Water Assessment

The Town of Cortland (Facility #0370051) has three public water supply wells which produce approximately 268,620 gallons per day to an estimated population of 2,850 through 1,021 service connections.

The Illinois EPA has determined that the Cortland 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 Cortland Community Water Supply is not vulnerable to viral contamination. This determination is based upon 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 hydrogeologic 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 ground water supply. 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 community water supply receiving a special exception permit from the Illinois EPA which allows a reduction in monitoring. The outcome of this monitoring reduction has saved the

community considerable laboratory analysis costs.

To further minimize the risk to the community's groundwater supply, the Illinois EPA recommends that three additional activities be assessed. First the community may wish to enact a "maximum setback zone" ordinance. These ordinances are authorized by the Illinois Environmental Protection Act and allow county and municipal officials the opportunity to provide additional protection up to a fixed distance, normally 1,000 feet, from their wells. (Based on information obtained in a Well Site Survey published in 1991 by the Illinois EPA, several secondary sources are located within 1,000 feet of the wells.) Second, the water supply staff has developed a contingency plan for emergency preparedness and will review it annually. Contingency planning documents are a primary means to ensure that, through emergency preparedness, a community will minimize their risk of being without safe and adequate water. Finally, the water supply staff continuously reviews and updates their cross connection control program to ensure that it remains current and viable. Cross connections to either the water treatment plant (for example, at bulk water loading stations) or in the distribution system may negate all source water protection initiatives provided by the community.

### 2005 Regulated Contaminants Detected

#### Lead and Copper

Date Sampled: 9/17/2003

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

Lead MCLG	Lead Action Level (AL)	Lead 90th Percentile	# Sites Over Lead AL	Copper MCLG	Copper Action Level (AL)	Copper 90th Percentile	# Sites Over Copper AL	Likely Source of Contamination
0	15 ppb	<5 ppb	0	1.3 ppm	1.3 ppm	0.21 ppm	0	Corrosion of household plumbing systems; Erosion of natural deposits

#### Water Quality Test Results

Definitions: The following tables contain scientific terms and measures, some of which may require explanation. **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 litre or parts per million or one ounce in 7,350 gallons of water. **ug/l** - micrograms per litre or parts per billion or one ounce in 7,350,000 gallons of water. **na** - not applicable. **Avg** - Regulatory compliance with some MCLs are based on running annual average of monthly samples. **Maximum Residual Disinfectant Level (MRDL)** - The highest level of disinfectant allowed in drinking water. **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.

#### Regulated Contaminants

Disinfectants & Disinfection By-Products	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source Of Contaminant
Chlorine	4/30/2005	0.7483	0.55 - 0.7483	MRDLG=4	MRDL=4	ppm	No	Water additive used to control microbes
Inorganic Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source Of Contaminant
Barium	1/27/2003	1.1	0.67 - 1.1	2	2	ppm	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride	1/27/2003	1.34	1 - 1.34	4	4	ppm	No	Erosion of natural deposits; Water additive which promotes strong teeth; Fertilizer discharge

Radioactive Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source Of Contaminant
Combined Radium	7/12/2005	14.2	0.8 - 14.2	0	5	pCi/L	Yes	Erosion of natural deposits
Alpha Emitters (Adjusted)	2/17/2005	16.2	2.8 - 16.2	0	15	pCi/L	No	Erosion of natural deposits
Alpha Emitters	2/17/2005	16.5	3.2 - 16.5	0	15	pCi/L	No	Erosion of natural deposits
Combined Uranium	4/21/2005	1.2	0.2 - 1.2	0	30	ppb	No	Erosion of natural deposits
State Regulated Contaminants	Collection Date	Highest Level Detected	Range of Levels Detected	MCLG	MCL	Units	Violation	Likely Source Of Contaminant
<b>Iron</b> This contaminant is not currently regulated by USEPA. However, the state has set an MCL for this contaminant for supplies serving a population of 1000 or more.	1/27/2003	350	140 - 350	N/A	1000	ppb	No	Erosion from naturally occurring deposits
<b>Sodium</b> There is not a state or federal MCL for sodium. Monitoring is required to provide information to consumers and health officials that are concerned about sodium intake due to dietary precautions. If you are on a sodium-restricted diet, you should consult a physician about this level of sodium in the water.	1/27/2003	75	15 - 75	N/A	N/A	ppm	No	Erosion of naturally occurring deposits; used in water softener regeneration

**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.

### 2005 Violation Summary Table

Rule or Contaminant	Violation Type	Violation Duration
<b>RADIUM, COMBINED (226, 228)</b> Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.	MCL, AVERAGE, WITHOUT NO. EXCEEDANCE	1/1/2005 To 3/31/2005 4/1/2005 To 6/30/2005 7/1/2005 To 9/30/2005 10/1/2005 To 12/31/2005

#### What does this mean?

The table shows that our system continues to have a problem with the level of combined radium in the water. 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.

The Town is working toward the installation of a treatment facility at its final well to bring the levels of radium into compliance. It has already completed the facilities at two of the wells.

Thank you for allowing us to continue providing your family with clean, quality water this year. In order to maintain a safe and dependable water supply we sometimes need to make improvements that will benefit all of our customers. These improvements are sometimes reflected as rate structure adjustments. Thank you for understanding.

Please call our office if you have questions. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.

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STANDARD  
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PERMIT NO. 1**

**The Residents of  
Cortland, IL 60112**

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For Users of the Public Water System  
In the Town of Cortland**