

# *Annual Drinking Water Quality Report*

## **CORTLAND**

IL0370051

Annual Water Quality Report  
For the period of January 1 to December 31, 2004

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.

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 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;

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 213,700 gallons per day to an estimated population of 2,450 through 901 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 may be in the process of revisiting their contingency planning documents. 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 is encouraged to review 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.

### Regulated Contaminants Detected in 2004 (collected in 2004 unless noted)

Lead and Copper Date Sampled: 9/30/2000

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

Regulated Contaminants	Highest Level Detected	Range of Levels Detected	Unit of Measurement	MCLG	MCL	Violation?	Likely Source of Contamination
<b>Microbiological Contaminants</b>							
Total Coliform Bacteria	7	4-7	pCi/L	0	15	Yes	Erosion of natural deposits
<b>Inorganic Contaminants</b>							
Barium (results from 2002)	1.1	0.67-1.1	ppm	2	2	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride (results from 2002)	1.34	1-1.34	ppm	4	4	No	Erosion of natural deposits; Water additive which promotes strong teeth; Fertilizer discharge
Nitrate-Nitrite	<0.1	<0.1	ppm	10	10	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Nitrate (as N)	<0.1	<0.1	ppm	10	10	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
<b>Radioactive Contaminants</b>							
Alpha Emitters (results from 2002)	7	4-7	pCi/L	0	15	Yes	Erosion of natural deposits
<b>State Regulated Contaminants</b>							
Iron (results from 2002)	350	140-350	ppb	n/a	1000	No	Erosion from naturally occurring deposits
Sodium (results from 2002)	75	15-75	ppm	n/a	n/a	No	Erosion of naturally occurring deposits; Used in water softener regeneration

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.

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

MDL (Maximum Contaminant Level): 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.

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.

ppm: parts per million

ppb: parts per billion

pCi/l: picoCuries per liter (measurement of radioactivity)

**2004 Violation Summary Table:**

Rule or Contaminant	Violation Type	Violation Duration
RADIUM, COMBINED (226, 228)	MCL, AVERAGE, WITHOUT NO. EXCEEDANCE	1/1-3/31/04, 4/1-6/30/2004, 7/1-9/30/2004, 10/1-12/31/2004
<b>Health Effects:</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.	
CHOLIFORM	MCL (TCR), MONTHLY, AND PUBLIC NOTICE RULE	6/1/04 to 6/30/04
<b>Health Effects:</b>	Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacteria may be present.	
COMBINED RADIUM, URANIUM, GROSS ALPHA	MONITORING, ROUTINE MAJOR	7/1/04 to 9/30/04

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 treatment facilities at all three well houses to bring the levels of radium into compliance. We have already completed the facilities at two of the wells with the assistance of a grant in the amount of \$232,000 we received from the federal government for this work. We will be adding treatment facilities at our third well in the immediate future.

We also had a choliform violation for one month during 2004. We believe the choliform violation was a result of sampler technique error. Subsequent samples have been processed

without this sampler technique error and have been acceptable.

The table also shows that our system failed to perform routine monitoring for combined radium, uranium, and gross alpha for one monitoring period during 2004. The monitoring violation was due to a failure to submit required samples on time. All samples have been submitted on time as required in subsequent months.

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.

**TOWN OF CORTLAND**

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**The Residents of**  
**Cortland, IL 60112**

*2004 Annual Drinking Water Quality Report  
For Users of the Public Water System  
In the Town of Cortland*