

6/9/2004

**Annual Drinking Water Quality Report**

ROCK ISLAND ARSENAL

IL1615387

Annual Water Quality Report

For the period of January 1 to December 31, 2003.

This report is intended to provide you with important information about your drinking water and the efforts made by the ROCK ISLAND ARSENAL water system to provide safe drinking water. The source of drinking water used by ROCK ISLAND ARSENAL is Surface .

For more information regarding this report, contact:

Name: Charles Swynenberg

Phone: (309) 782-2445

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

**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 pickup 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 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. 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).

Shal

## Source Water Assessment Availability.

When available, a Source Water Assessment summary is included below for your convenience.

Illinois EPA considers all surface water sources of community water supply to be susceptible to potential pollution problems, hence, the reason for mandatory treatment for all surface water supplies in Illinois. Mandatory treatment includes coagulation, sedimentation, filtration, and disinfection. Within the Illinois portion of the Upper Mississippi River Watershed, which is illustrated in Figure 3, many commodities, including manufactured goods, petrochemicals, and pesticides are transported along the river system. The production, storage, and transportation of these commodities are a major concern, especially when occurring near surface water intakes. In addition, agricultural runoff within the Illinois portion of the Upper Mississippi River Basin contributes to the susceptibility of the Rock Island Arsenal intake. With high flow rates and long distances of travel on the Mississippi River, critical areas can be extensive. The critical area for the Rock Island Arsenal intake was determined using data from a joint U.S. Environmental Protection Agency/U.S. Geological Survey project. This project used a computer modeling program (SPARROW) to determine travel times on major rivers in the United States.

Accidental spills of hazardous materials into navigable waterways are a major concern because of their frequency in the United States in recent years. Illinois has access to 1,116 miles of inland waterway that can handle commercial barge traffic. These include the Upper Mississippi River, Illinois River Waterway, and the Ohio River. Along these waterways are numerous facilities that load and unload hazardous materials. Analysis of reported spills indicate that between 1974 and 1989, 794 accidental spills of hazardous materials occurred along Illinois waterways. Approximately 92% of these spills occurred along the Mississippi and/or the Illinois River. Figure 2 shows the critical area of concern (Zone 1) for the Rock Island Arsenal intake. Spills occurring in this critical area will travel to the intake in five hours or less, making contingency planning and spill reporting a major concern in this watershed. Further information concerning spill response planning on the Mississippi River may be found in U.S. EPA's website at [www.epa.gov/region5/oil](http://www.epa.gov/region5/oil) and at U.S. Geological Survey's website [ftp://ftp.umesc.er.usgs.gov/pub/gis\\_data/oil\\_spill](ftp://ftp.umesc.er.usgs.gov/pub/gis_data/oil_spill). The Upper Mississippi River Water Suppliers Coalition is currently working to develop an Early Warning Monitoring Network on the Mississippi River. This Network would enhance response times by providing supplies with early notification of spills on the Mississippi River. Under Section 319 of the Federal Clean Water Act, U.S. EPA provides grants for the Illinois EPA to finance projects that demonstrate cost-effective solutions to NPS pollution problems and promote public knowledge and awareness of NPS pollution. Projects in the Illinois portion of the Upper Mississippi Watershed have included:

- Mitchell Park Ravine Watershed Project - The project will focus on soil erosion control and water quality in an urban watershed determined to be high priority by the East Moline Stormwater Committee. Proven soil erosion and sediment control and stormwater management approaches planned in consultation with the NRCS will be utilized. Practices included grade stabilization structures, streambank stabilization, stormwater detention basins, critical area treatment, and permanent vegetative cover.

- On going programs in the North Mississippi, Des Plaines, Illinois, Sangamon, and Fox River Watersheds to reduce siltation and improve water quality.

Within the Illinois portion of the Upper Mississippi River Watershed, the Illinois River Watershed has been identified as one of the most significant natural resources in the state. Protection and enhancement of this natural resource is a priority concern of the State of Illinois. In order to focus public attention and identify resource needs, several initiatives are underway including:

- Integrated Management Plan for the Illinois River Watershed - Under the Chairmanship of Lieutenant Governor Corrine Wood, an Illinois River Strategy Team has been formed. This group of public and private sector representatives forms the Illinois River Planning Commission and develops recommendations regarding environmental and economic issues on the Illinois River. These recommendations are the heart of an Integrated Management Plan, which in turn became the foundation for the Illinois River Restoration and Conservation Grant Act.

- Illinois River Restoration and Conservation Grant Act - This Act establishes an interagency body to develop and administer a grant program to fund local watershed management projects. The Act also established the Illinois River Coordinating Council to advise on grant awards and make recommendations towards the betterment of the Illinois River.

- Conservation Reserve Enhancement Program - The Conservation Reserve Enhancement Program (CREP) is a cooperative effort between the USDA and the State of Illinois to protect water quality in the Illinois River and some of its tributaries. USDA and the State of Illinois will work with other Federal, State and local authorities to reduce sedimentation and runoff, and encourage the growth of local wildlife. The Illinois program will establish CRP contracts with owners and operators of farm

properties to plant specific kinds of vegetation near streams and rivers in return for rental payments and other incentives. More information on CREP may be found on Illinois DNR's website at <http://dnr.state.il.us>.

In an effort to minimize the impact of livestock facilities on water resources on a statewide basis, livestock facilities are now regulated under the Livestock Management Facilities Act. This legislation is designed to keep Illinois' livestock industry productive and environmentally responsible by establishing requirements for design, construction, operation and management of livestock facilities and waste-handling structures. Detailed information on the Livestock Management Facilities Act may be found at the website <http://www.agr.state.il.us>. In addition, the watershed protection efforts and priorities of the Illinois EPA, Illinois Department of Agriculture, Illinois Department of Natural Resources, U.S. Department of Agriculture's Natural Resources Conservation Service, U.S. Army Corps of Engineers, and The Nature Conservancy are described and illustrated at the website: <http://www.epa.state.il.us/water/unified-watershed-assessment/index.html>.

In order to help farmers in adopting sound agricultural practices, The Illinois Council on Best Management Practices (C-BMP) was formed. The Council is a coalition of agribusiness and agricultural producer organizations with the support of the University of Illinois Extension and serves as a clearinghouse on current research to protect water quality in Illinois. The Council also provides information and support to local watershed groups to help implement sound water quality initiatives and can offer educational assistance and help facilitate the technical and financial resources needed to carry out water quality objectives. For more information on C-BMP contact Dr. George Czapar, Springfield Extension Center, P.O. Box 8199, Springfield, IL 62791, email: [g-czapar@uiuc.edu](mailto:g-czapar@uiuc.edu).

To further minimize the risk to the Arsenal's groundwater supply, the Illinois EPA recommends that three additional activities be considered. First, the water supply staff may wish to revisit their contingency planning documents in order to ensure the plans are kept current, and the water department and emergency response staff are aware of and adequately trained to implement emergency procedures. 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. Second, the water supply staff is encouraged to review and sustain 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. Finally, the Illinois EPA recommends that the Arsenal continue to evaluate additional source water protection management options to address the regulatory and non-regulatory land use activities within the community wells' recharge area. Specifically, these management options should include potential impacts from non-point sources related to agricultural land uses.

In addition, Well #51 should be retrofitted for service or properly abandoned if it is of no further use. Inactive wells that are improperly abandoned are considered potential routes for contamination under the Illinois Groundwater Protection Act.

**Regulated Contaminants Detected in 2003 (collected in 2003 unless noted )**

| <b>Lead and Copper</b>  |                        |                      |                      |             |                         |                        |                       |  |
|---|------------------------|----------------------|----------------------|-------------|-------------------------|------------------------|-----------------------|--|
| <b>Definitions:</b>   |                        |                      |                      |             |                         |                        |                       |  |
| <b>Action Level (AL):</b> The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.               |                        |                      |                      |             |                         |                        |                       |  |
| <b>Action Level Goal(AGL):</b> 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 | Coper Action Level (AL) | Copper 90th Percentile | #Sites Over Copper AL | Likely Source of Contamination                                       |
| 0 ppb   | 15 ppb                 | 5                    | 0                    | 1.3 ppm     | 1.3 ppm                 | 0.1                    | 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 (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                              | Highest Level | Range of Levels Detected | Unit of Measurement | MCLG | MCL | Violation? | Likely Source of Contamination  |
|---|---------------|--------------------------|---------------------|------|-----|------------|---|
| <b>Disinfectants &amp; Disinfection By-Products</b> |               |                          |                     |      |     |            |   |
| Total Haloacetic Acids (HAA5)                       | 37.7          | 37.7-37.7                | ppb                 |      | 60* | No         | By-product of drinking water chlorination   |
| TTHMs [Total Trihalomethanes]                       | 45.8          | 45.8-45.8                | ppb                 | n/a  | 80* | No         | By-product of drinking water chlorination   |
| <b>Inorganic Contaminants</b>                       |               |                          |                     |      |     |            |   |
| Barium  | 0.016         | 0.016-0.016              | ppm                 | 2    | 2   | No         | Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits  |
| Nitrate-Nitrite                                     | 0.648         | 0.648-0.648              | ppm                 | 10   | 10  | No         | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits |
| Nitrate (As N)                                      | 0.648         | 0.648-0.648              | ppm                 | 10   | 10  | No         | Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits |
| <b>State Regulated Contaminants</b>                 |               |                          |                     |      |     |            |   |
| Sodium  | 12            | 12-12                    | 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.

\*MCL Statement: The maximum contaminant level (MCL) for TTHM and HAA5 is 80 ppb and 60 ppb respectively and is currently only applicable to surface water supplies that serve 10,000 or more people. These MCLs will become effective 01/01/2004 for all groundwater supplies and surface supplies serving less than 10,000 people. Until 01/01/2004, surface water supplies serving less than 10,000 people, any size water supply that purchase from a surface water source, and groundwater supplies serving more than 10,000 people must meet a state imposed TTHM MCL of 100 ppm. Some people who drink water containing trihalomethanes in excess of the MCL over many years experience problems with their livers, kidneys, or central nervous systems, and may have increased risk of getting cancer.

**Turbidity - Regulated at the Water Treatment Plant -Information Statement: Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration system and disinfectants.**

| Limit (Treatment Technique)  | Lowest Monthly % meeting limit | Violation | Source       |
|------------------------------|--------------------------------|-----------|--------------|
| 0.5 NTU(POP served < 10,000) | 100                            | No        | Soil runoff. |
| 0.3 NTU (POP served >9,999)  |                                |           |              |

| Limit (Treatment Technique)  | Highest Single Measurement | Violation | Source      |
|------------------------------|----------------------------|-----------|-------------|
| 0.5 NTU(POP served < 10,000) | 0.31                       | No        | Soil runoff |
| 0.3 NTU (POP served >9,999)  |                            |           |             |

The percentage of Total Organic Carbon (TOC) removal was measured each month and the system met all TOC removal requirements set by IEPA

### 2003 Violation Summary Table:

This table is intended to assist you in the identification of the year 2003 violation(s) that are required to be reported and explained in your CCR. The table does NOT include the required explanation of the noted violation(s) and you will need to provide this information as explained in the CCR Guidance Manual .

| Rule or Contaminant                | Violation Type  | Violation Duration  |
|------------------------------------|---|---------------------|
| * CONSUMER CONFIDENCE REPORTS RULE | CCR REPORT  | 7/1/2003 To Present |
| <b>Health Effects:</b>             | Failure to distribute the Consumer Confidence Report on time. |                     |

\* The violation cited above, in the 2003 Violation Summary Table, was issued for failure of our supply to distribute the calendar year 2002 CCR to customers by the 1 July 2003 deadline.

The violation will be corrected through distribution of this calendar year 2003 CCR to customers prior to the 1 July 2004 deadline.