Questions or Comments?

We welcome any comments or questions the public has about this document, the water quality or any of our processes. Please feel free to call us at (309) 752-1520. Between 6 AM and 2 PM, ask for Water Filtration Plant Director Leath "Chip" Drake , or call 24 hours a day; water treatment professionals are always available to answer your questions. You can also mail comments or questions at:

City of East Moline Water Filtration Plant, 915 16th Avenue
East Moline IL 61244 Attn: Leath Drake

You can also e-mail at ldrake@eastmoline.com.

Decisions concerning your drinking water are made at city council meetings. You are invited to participate in these meetings, held on the first and third Monday of each month beginning at 6:30 p.m. at East Moline City Hall, 915 16th Avenue, East Moline, Illinois.

OUR WATER TREATMENT

The City of East Moline takes water from the Mississippi River and treats it to make it safe drinking water.
Here is how we do it. . . .

INTAKE / PRELIMINARY TREATMENT

Water flows from the river through a large mesh screen to remove debris. Chemicals are added to improve the taste and odor of the water. The water is then pumped to the water plant for further treatment. This site is continuously monitored at the water plant to ensure proper operation.

IN-LINE CHEMICAL MIXING

A chemical called alum is injected into the water. The alum causes the dirt, bacteria, algae and other particles to bind together and form larger particles in a process called coagulation. This process is enhanced with an in-pipe mixing zone, which allows us to make more efficient use of the alum.

FLOCCULATION BASINS

In this process, the water goes through a series of tanks that allow the particles in the water to come together with the chemicals to form larger particles called floc. The floc becomes heavy enough that it will settle out of the water. Large propeller mixers in these basins improve floc formation.

SEDIMENTATION BASINS

These basins slow down the water flow. The heavy floc particles settle to the bottom of the basin, and are removed from the tank.

PRE-FLITER DISINFECTION

After sedimentation, the water still contains bacteria and viruses. We add a chlorine disinfectant chemical to kill off some of those organisms that could cause illnesses. At this point in the treatment process, particular attention is given to killing off harmful bacteria and viruses.

FILTRATION

After preliminary disinfection the water looks clean and clear but still contains some particles. Those particles are removed by passing the water through filters made from crushed coal, sand and gravel. As more and more water goes through the filters, they will eventually become plugged by the particles. Before this happens, we force water up through the filter in a process called backwashing. The water quality from each filter is continuously monitored to ensure optimum operation.

ULTRA-VIOLET (UV) DISINFECTION

There are other organisms in our water that are more resistant to chlorine disinfection. We are particularly concerned with Giardia and Cryptosporidium (you can read about cryptosporidium elsewhere in this document).
We use large units that produce intense UV radiation to inactivate those kinds of organisms.

POST-FLITER DISINFECTION

At this point in the process, we create a combination of chlorine and ammonia called chloramine.
This form of chlorine disinfects while hindering the formation of trihalomethanes, or THMs (which are by-prducts of drinking water chlorination).

CLEAR WELL STORAGE

This storage allows us to be prepared for extra water use, like fires and main breaks. Additional chemicals are added prior to this storage to promote strong teeth and stabilize possible corrosiveness of the water.

DISTRIBUTION SYSTEM

The water is then pumped to four water towers throughout the city; these towers provide additional storage and help supply water pressure. The water then flows through the underground water mains and water service lines to homes and businesses.

LEAD IN DRINKING WATER

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. The City of East Moline is responsible for providing high quality drinking water, but 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*.

CITY OF EAST MOLINE WATER FILTATION PLANT
2013 WATER QUALITY REPORT

Working to bring you safe, clean water!

Employees at the East Moline Water Filtration Plant continue to work in order to provide you the safest quality water possible. During this year staff at the Water Filtration Plant conducted testing for over eighty (80) contaminates commonly found in water, and averaged over 130 water tests per day to insure you water quality is not compromised.

We are proud to report that in 2013, as in past years, your tap water met all US Environmental Protection Agency, Illinois Environmental Protection Agency's and the Illinois Department of Public Health's standards for drinking water.

Staff at the East Moline Water Filtration Plant continues to strive for this accomplishment each and every year with continuous monitoring of the water quality in every stage of the treatment process, sampling and testing of water in the different states of the treatment process, and making adjustments to the treatment process to insure safety of the water while optimizing the treatment process. We couple this with a preventive maintenance program insuring all equipment is maintained to operate properly and efficiently in the treatment and delivery process.

In the coming year, staff will continue to monitor the regulatory environment regarding new regulations and possible effects to East Moline and you, our customers.

Leath Drake, Director of Water Filtration

Este informe contiene información muy importante sobreel agua que usted bebe.
Tradúzcalo ó hable con alguienque lo entienda bien.

ABOUT THE TABLE WITH THIS DOCUMENT

In addition to the informational section of the Water Quality report, we have included a table listing the regulated contaminants detected in 2013 to help give you a better picture of the quality of your drinking water. A table listing the contaminants tested for and not detected is available from the Water Plant at the address listed in this document.

OUR SOURCE: THE MIGHTY MISSISSIPPI

East Moline gets water for treatment from the Mississippi River, one of the largest river systems in the world. From it the water filtration plant can treat 10 million gallons of water a day.

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 can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in water before treatment 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 byproducts 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.

We detected very few chemical contaminants in water we treated last year; those that were detected are listed in the table inside this document. No contaminants were above regulated limits. However, due to the diversity of businesses and cities along the Mississippi River, we feel the water from the river could contain small amounts of any of the types of contaminants we listed above. We will continue to treat the drinking water of East Moline *as if* those contaminants were present, to assure you of drinking water that is as contaminant-free as possible.

2013 East Moline Water Quality Data

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water.

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.

Regulated Substances

Substance (Unit of Measure)	Year Sampled	MCL [MRDL]	MCLG [MRDLG]	Amount Detected	Range Low-High	Violation	Typical Source
Combined Radium 226/228 (pCi/L)	2009	5	0	0.588	0.588-0.588	No	Erosion of natural deposits
Gross alpha excluding radon & uranium (pCi/L)	2009	15	0	1.49	1.49-1.49	No	Erosion of natural deposits
Barium (ppm)	2013	2	2	0.03	0.039-0.039	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chloramines (ppm)	2013	4	4	3.1	1.7-4.5	No	Water additive used to control microbes
Fluoride (ppm)	2013	4	4	1.1	1.11-1.11	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA] (ppb)	2013	60	NA	29	17-59	No	By-product of drinking water disinfection
Nitrate (ppm)	2013	10	10	2	2-2	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2013	80	NA	29	10-43	No	By-Product of drinking water chlorination
Total Coliform Bacteria (# positive samples)	2013	1 positive monthly sample	0	0	NA	No	Naturally present in the environment
Total Organic Carbon (removal ratio)	2013	TT	NA	1.81	1.70-1.95	No	Naturally present in the environment
Turbidity[1] (NTU)	2013	TT	NA	0.38	0.03-0.38	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2013	TT	NA	99.5%	99.5-100%	No	Soil runoff

Tap water samples were collected from lead and copper analyses from sample sites throughout the community

Substance (Unit of Measure)	Year Sampled	Action Level	MCLG [MRDLG]	Amt Detected (90th %tile)	Sites above AL/ Total Sites	Violation	Typical Source
Copper (ppm)	2011	1.3	1.3	0.11	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2011	15	0	6.6	0/30	No	Corrosion of household plumbing systems: Erosion of natural deposits

Giardia and Cryptosporidium samples were collected from our source water

Substance (Unit of Measure)	Year Sampled	MCL [MRDL]	MCLG [MRDLG]	Amount Detected	Range Low-High	Violation	Typical Source
Giardia (cysts per liter)	2012	TT	0	0.218	0-1.65	No	Naturally present in the environment
Cryptosporidium (oocysts per liter)	2012	TT	0	0.013	0-0.104	No	Naturally present in the environment

State Regulated Substances[2]

Substance (Unit of Measure)	Year Sampled	MCL [MRDL]	MCLG [MRDLG]	Amount Detected	Range Low-High	Violation	Typical Source
Manganese (ppb)	2013	150	150	16	16-16	No	Erosion of naturally occurring deposits
Sodium (ppm)	2013	NA	NA	30	30-30	No	Erosion of naturally occurring deposits; Used in water softener regeneration

Unregulated Contaminant Monitoring Rule (UCMR3)[3]

Substance (Unit of Measure)	Year Sampled	Amount Detected	Range Low-High	Typical Source
1,4-Dioxane (ppb) – Entry Point	2013	0.31	0-0.56	Cyclic aliphatic ether; used as a solvent or solvent stabilizer in manufacture and processing of paper, cotton, textile products, automotive coolant, cosmetics, and shampoos, cleaning agent, surface coating, and adhesive agent.
Chlorate (ppb) Entry Point Distribution	2013	174 191	46-310 46-340	Erosion of naturally occurring deposits; Used in water softener regeneration
Chromium 6 (ppb) Entry Point Distribution	2013	0.05 0.06	0-0.07 0.03-0.09	Naturally occurring element; used in making steel and other alloys; used for chrome plating, dyes, and pigments, leather tanning, and wood preservation.
Molybdenum (ppb) Entry Point Distribution	2013	0.6 0.6	0-1.3 0-1.3	Naturally-occurring element found in ores and present in plants, animals, and bacteria; commonly used form molybdenum trioxide used as a chemical reagent.
Strontium (ppb) Entry Point Distribution	2013	96 92	86-110 87-110	Naturally-occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions.
Vanadium (ppb) Entry Point Distribution	2013	0.96 0.98	0.29-1.60 0.43-1.50	Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst.

[1] Turbidity is a measure of the cloudiness of the water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

[2] Manganese and Sodium are not currently regulated by the U.S. EPA. However, the state has set MCL's for supplies serving a population of 1000 or more.

[3] Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. A maximum contaminant level (MCL) for these substances has not been established by either state or federal regulations, nor has mandatory health effects language.

Table Definitions

AL (Action Level): The concentration of a contaminant that triggers treatment or other required actions by the water supply.
MCL (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.
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.
NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
NA: Not Applicable
ND: None Detected
pCi/L: picocuries per liter
ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).
ppm (parts per million): One part substance per million parts water (milligrams per liter).
Removal ratio: A ratio between the percentage of a substance actually removed to the percentage of the substance required to be removed.
TT (Treatment Technique): A required process intended to reduce the level of a contaminant in drinking water.

USEPA and the Safe Drinking Water Hotline

In order to ensure that tap water is safe to drink, the United States Environmental Protection Agency (USEPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

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 is available from the Safe Drinking Water Hotline at (800) 426-4791 or www.epa.gov/safewater/hotline/.

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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline.

Source Water Assessment

A Source Water Assessment Plan (SWAP) is now available at our office. This plan is an assessment of the delineated area around our listed sources through which contaminants, if present, could migrate and reach our source water. It also includes an inventory of potential sources of contamination within the delineated area, and a determination of the water supply's susceptibility to contamination by the identified potential sources.
According to the Source Water Assessment Plan, our water system had a susceptibility rating of 'medium'.
If you would like to review the Source Water Assessment Plan, please feel free to contact our office during regular office hours. You may also access the assessment from the Illinois EPA website at:
http://www.epa.state.il.us/cgi-bin/wp/swap-fact-sheets.pl.

Cryptosporidium

Cryptosporidium is a microbial parasite found in surface water throughout the U.S. Although filtration removes cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Our monitoring of source water indicates the presence of these organisms

Current test methods do not enable us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. Immuno-compromised individuals are encouraged to consult their doctors regarding appropriate precautions to avoid infection. Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water.

SPECIAL EXEMPTION PERMIT

An exemption permit is issued by the state or USEPA to grant permission not to meet a treatment technique under certain conditions. The East Moline Water Plant has such a permit for the disinfection / inactivation process we use. The traditional approach USEPA recognizes is chlorination and filtration to achieve disinfection. After extensive testing and operational experience, we received a permit on April 16, 2013 to receive inactivation credit for our combination chlorination, filtration and ultraviolet light disinfection / inactivation scheme.

Drinking Water Websites

City of East Moline: www.eastmoline.com
Illinois EPA: www.epa.state.il.us/
American Water Works Association: www.awwa.org/
USEPA Drinking Water Office of Water: www.epa.gov/watrhome/
Illinois Section AWWA: www.isawwa.com