

ANNUAL

WATER QUALITY REPORT

Water testing performed in 2008



PWS ID#: IA7785007

Meeting the Challenge

We are once again proud to present to you our annual water quality report. This edition covers all testing completed from January 1 through December 31, 2008. Over the years, we have dedicated ourselves to producing drinking water that meets all state and federal drinking water standards. We continually strive to adopt new and better methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please share with us your thoughts about the information in this report. After all, well-informed customers are our best allies.

Important Health Information

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 at (800) 426-4791.

Community Participation

You are invited to participate in our public forum and to voice your concerns about your drinking water. The West Des Moines Water Works Board of Trustees meets at 4 p.m. on the third Monday of each month. Meetings are held at the A.C. Ward Municipal Water Treatment Plant, 1505 Railroad Avenue, West Des Moines, Iowa.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Mitch Pinkerton, Water Production Supervisor, at (515) 222-3465.

Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. 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 these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases radioactive material, and substances resulting from the presence of animals or from human activity. Substances 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, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may 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 may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

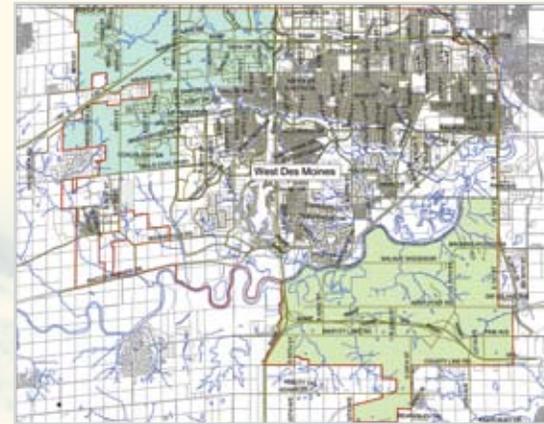
Source Water Assessment

A Source Water Assessment (SWA) is an evaluation by the Iowa Department of Natural Resources (IDNR) 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.

West Des Moines Water Works' SWA has determined the Raccoon River Alluvial Aquifer to be highly susceptible to contamination because the characteristics of the aquifer and overlying materials allow contaminants to move through the aquifer fairly quickly. The alluvial wells will be most susceptible to dry cleaners, gas stations, industrial sites, and wastewater dischargers. It is important to note that no contaminants resulting from these activities have been found in your drinking water.

The SWA has also determined that the Jordan Aquifer is not susceptible to contamination because the characteristics of the aquifer and overlying materials prevent easy access of contaminants to the aquifer. The Jordan Aquifer will not be susceptible to most contaminant sources except through pathways to the aquifer such as abandoned or poorly maintained wells.

Des Moines Water Works' Source Water Assessment (DMWW SWA) identifies contaminants having an impact on the Raccoon River and Des Moines River watersheds. To obtain a copy of the DMWW SWA, visit www.dmww.com or call (515) 222-3460 to request a copy.



West Des Moines water customers in the NW and SE portion of the city receive their water from the Des Moines Water Works.

Where Does My Water Come From?

West Des Moines Water Works obtains a portion of its water from 19 shallow wells (all between 40 and 50 feet deep) that draw water from the Raccoon River Alluvial Aquifer. Water is also obtained from three wells drilled into the much deeper Jordan Aquifer (2,500 feet deep). In addition, some West Des Moines water is purchased from the Des Moines Water Works (DMWW). This is treated and purified water from the Raccoon and Des Moines rivers which is blended with treated water from the West Des Moines Water Works. Approximately 5,000 West Des Moines Water Works customers (see map) receive their water solely from the Des Moines Water Works.

Information on the Internet

The U.S. EPA Office of Water (www.epa.gov/watrhme) and the Centers for Disease Control and Prevention (www.cdc.gov) Web sites provide a substantial amount of information on many issues relating to water resources, water conservation, and public health.

What's Your Water Footprint?

You may have some understanding about your carbon footprint, but how much do you know about your water footprint? The water footprint of an individual, community, or business is defined as the total volume of freshwater that is used to produce the goods and services that an individual or community consumes or that a business provides. For example, 11 gallons of water are needed to irrigate and wash the fruit in one half-gallon container of orange juice. Thirty-seven gallons of water are used to grow, produce, package, and ship the beans in that morning cup of coffee. Two hundred and sixty-four gallons of water are required to produce one quart of milk, and 4,200 gallons of water are required to produce two pounds of beef.

According to the U.S. EPA, the average American uses about 100 gallons of water daily. In fact, in the developed world, one flush of a toilet uses as much water as the average person in the developing world allocates for an entire day's cooking, washing, cleaning, and drinking. The annual American per capita water footprint is about 8,000 cubic feet; twice the global per capita average. With water use increasing six-fold in the past century, our demands for freshwater are rapidly outstripping what the planet can replenish.

To check out your own water footprint, go to www.h2oconserve.org, or visit www.waterfootprint.org to see how the water footprints of other nations compare.

What Causes the Pink Stain on Bathroom Fixtures?



The reddish-pink color frequently noted in bathrooms on shower stalls, tubs, tile, toilets, sinks, toothbrush holders and on pets' water bowls is caused by the growth of the bacterium *Serratia marcescens*. *Serratia* is commonly isolated from soil, water, plants, insects, and vertebrates (including man). The bacteria can be introduced into the house through any of the above mentioned sources. The bathroom provides a perfect environment (moist and warm) for bacteria to thrive.

The best solution to this problem is to continually clean and dry the involved surfaces to keep them free from bacteria. Chlorine-based compounds work best, but keep in mind that abrasive cleaners may scratch fixtures, making them more susceptible to bacterial growth. Chlorine bleach can be used periodically to disinfect the toilet and help to eliminate the occurrence of the pink residue. Keeping bathtubs and sinks wiped down using a solution that contains chlorine will also help to minimize its occurrence.

Serratia will not survive in chlorinated drinking water.

Lead and 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. We are 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 www.epa.gov/safewater/lead.

Sampling Results

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. State and federal regulations allow us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES												
				West Des Moines Water Works A.C. Ward Municipal Water Treatment Plant			Des Moines Water Works Fleur Drive Plant			Des Moines Water Works McMullen Plant		
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE	
Alpha Emitters (pCi/L)	2008	15	0	2.1	NA	NA	NA	NA	NA	No	Erosion of natural deposits	
Atrazine (ppb)	2008	3	3	NA	NA	NA	NA	0.1	NA	No	Runoff from herbicide used on row crops	
Chlorine (ppm)	2008	[4]	[4]	1.25	0.1–2.2	0.8	0.08–4	0.8	0.08–4	No	Water additive used to control microbes	
Combined Radium (pCi/L)	2008	5	0	1.2	ND–1.2	NA	NA	NA	NA	No	Erosion of natural deposits	
Fluoride (ppm)	2008	4	4	1.17	NA	1.49	0.18–1.49	1.32	0.72–1.32	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories	
Haloacetic Acids [HAA] (ppb)	2008	60	NA	ND	NA	8	ND–14	8	ND–14	No	By-product of drinking water disinfection	
Nitrate¹ (ppm)	2008	10	10	0.8	0.4–0.8	8.1	0.5–8.1	9.5	0.7–9.5	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	
Nitrite (ppm)	2008	1	1	NA	NA	0.08	ND–0.08	0.29	ND–0.29	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	
Total Organic Carbon [TOC]² (removal ratio)	2008	TT	NA	NA	NA	2.17	NA	1.94	NA	No	Naturally present in the environment	
TTHMs [Total Trihalomethanes] (ppb)	2008	80	NA	1.83	ND–10	37	20–70	37	20–70	No	By-product of drinking water chlorination	
Turbidity³ (NTU)	2008	TT	NA	NA	NA	0.18	0.02–0.18	0.26	ND–0.26	No	Soil runoff	
Turbidity (Lowest monthly percent of samples meeting limit)	2008	TT	NA	NA	NA	100	NA	100	NA	No	Soil runoff	
Tap water samples were collected for lead and copper analyses from sample sites throughout the community												
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/ TOTAL SITES	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE				
Copper (ppm)	2007	1.3	1.3	0	0/30	ND–.24	No	Corrosion of household plumbing systems				
Lead (ppb)	2007	15	0	3	1/30	ND–34	No	Corrosion of household plumbing systems				

UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	West Des Moines Water Works A.C. Ward Municipal Water Treatment Plant		Des Moines Water Works Fleur Drive Plant		Des Moines Water Works McMullen Plant		TYPICAL SOURCE
		AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	
Sodium (ppm)	2008	200	NA	36	11–36	15	6–15	Erosion of natural deposits
Sulfate (ppm)	2008	400	NA	130	28–130	60	21–60	Erosion of natural deposits

IDSE SAMPLING RESULTS⁴

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	West Des Moines Water Works A.C. Ward Municipal Water Treatment Plant		Des Moines Water Works—Fleur Drive Plant and McMullen Plant		TYPICAL SOURCE
		AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	
Haloacetic Acids [HAA]—IDSE Results (ppb)	2008	19	ND–19	15	ND–15	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes]—IDSE Results (ppb)	2008	77	ND–77	57	15–57	By-product of drinking water disinfection

¹Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

²The value reported under Amount Detected for TOC is the lowest ratio between percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than one indicates that the water system is in compliance with TOC removal requirements. A value of less than one indicates a violation of the TOC removal requirements.

³Turbidity 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.

⁴We were required by the U.S. EPA to conduct an evaluation of our distribution system. This is known as an Initial Distribution System Evaluation (IDSE) and is intended to identify locations in our distribution system that have elevated disinfection by-product concentrations. Disinfection by-products (e.g., HAAs and TTHMs) result from continuous disinfection of drinking water and form when disinfectants combine with organic matter that naturally occurs in the source water.

Definitions

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

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.

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

NA: Not applicable.

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

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.

pCi/L (picocuries per liter): A measure of radioactivity.

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 (or 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.