



2009 Annual Water Quality Report City of Sidney

The City of Sidney has been providing clean, potable drinking water from its present facility since 1979. We have a current, unconditioned license to operate our water system. As a City customer, you are our most precious resource and we take our commitment of being your drinking water supplier very serious. As shown in this annual report, which covers the 2009 calendar year, Sidney's drinking water surpassed the strict regulations of both the State of Ohio and the United States Environmental Protection Agency (EPA). The EPA requires all public water suppliers to provide each customer an annual report, in order for you to evaluate our progress.

Source Water

The City of Sidney's public water system uses surface water drawn from Tawawa Creek and the Great Miami River as well as ground water pumped from four water supply wells. The intake system includes low head dams on the Great Miami River and Tawawa Creek and is designed to permit the selection of water from any source or any combination of sources. Surface waters are by their nature susceptible to contamination, and numerous potential contaminant sources along their banks make them more so. The protection areas around Tawawa Creek, the Great Miami River and the well field include a moderate number of potential sources, including agricultural run-off, inadequate septic systems, and road and rail bridge crossings. As a result, the drinking water supplied to the City of Sidney's public water system is considered to have a high susceptibility to contamination.

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 source water include:

- (i) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;
- (ii) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;
- (iii) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;
- (iv) 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; and
- (v) Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

Historically, the Sidney public water system has effectively treated this source water to meet drinking water quality standards. The potential for water quality impacts can be further decreased by implementing measures to protect Tawawa Creek, the Great Miami River and the local aquifer. More detailed information is provided in the City of Sidney's Drinking Water Source Assessment Report or the City of Sidney's Wellhead Protection Program. Together, these sources of information aid our staff in locating potential sources of contamination within our community and our watershed. The City of Sidney offers residents a chance to monitor the water level in the Great Miami River from their own homes! Simply visit our web site at www.sidneyoh.com and click on "River Flood Action Plan".

Treatment & Staff

The treatment plant's capacity of 10 million gallons per day still meets present and future needs. The treatment processes used to treat the water include; powdered activated carbon to control odors, herbicides and pesticides; coagulation to remove sediments; disinfection to kill viruses and microbial contaminants; and filtration to remove other harmful contaminants.

The Water Treatment Plant is staffed 24 hours a day, 365 days per year, by a total of 8 personnel. All personnel operating the Treatment Plant are required to be licensed by the State of Ohio EPA. The plant's personnel are also certified by Ohio Environmental Protection Agency for the purpose of performing chemical and bacteriological testing, making us the only certified laboratory in Shelby County. We also perform testing and calibration of analytical equipment for surrounding communities.

Initial Distribution System Evaluation (IDSE)

Under the Stage 2 Disinfectants/Disinfection Byproducts Rule (D/DBPR), our public water system is required by USEPA 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 with elevated disinfection byproduct concentrations. The locations selected for the IDSE may be used for compliance monitoring under Stage 2 DBPR, beginning in 2012. Disinfection byproducts are the result of providing continuous disinfection of your drinking water and form when disinfectants combine with organic matter naturally occurring in the source water. Disinfection byproducts are grouped into two categories, Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA5). USEPA sets standards for controlling the levels of disinfectants and disinfectant byproducts in drinking water, including both TTHMs and HAA5s.

Cryptosporidium

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes cryptosporidium, the most commonly used filtration methods cannot guarantee 100% removal. 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. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water. The City of Sidney Water Department monitored for Cryptosporidium in the source water during 2009. Cryptosporidium was detected in 4 samples of 12 samples collected from the raw water. It was not detected in the finished water.

Nitrate

Nitrate in drinking water at levels above 10 ppm is a health risk for infants 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.

Lead Educational Information

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 Sidney Water Treatment Plant 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 at 800-426-4791 or at <http://www.epa.gov/safewater/lead>.

Ways You Can Conserve Water

1. Fix leaking faucets, pipes, toilets, etc.
2. Wash only full loads of laundry.
3. Take shorter showers.
4. Turn water off while shaving or brushing teeth.
5. Soak dishes before washing.

Water Awareness Trivia

1. Water is the most common substance found on earth.
2. It takes 62,600 gallons of water to produce one ton of steel.
3. 20-50 gallons of water is used in the average ten-minute shower.
4. Roughly 70% of an adult's body is water.
5. By the time a person feels thirsty, his or her body has lost over 1 percent of its total water amount.

FOR MORE INFORMATION about your drinking water and for opportunities to get involved, please contact Larry F. Broughton, Superintendent, by calling (937) 498-8180 or writing to 201 West Poplar Street, Sidney, Ohio 45365. Also, you are welcome and encouraged to attend the next public meeting on the Annual Water Quality Report on July 22, 2010, at 3:00 p.m. The meeting will take place at the Water Treatment Plant, located at 880 East Court Street.

This report can be viewed on the Web at:
www.sidneyoh.com

Definitions of some terms contained within this report.

Maximum Contaminant Level Goal (MCLG): 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.

Maximum Contaminant level (MCL): The highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Residual Disinfectant Level (MRDL): The highest residual disinfectant level allowed.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of residual disinfectant below which there is no known or expected risk to health.

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

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Parts per Million (ppm): Units of measure for concentration of a contaminant. A part per million corresponds to one second in approximately 11.5 days.

Parts per Billion (ppb): Units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.

The "<"symbol: A symbol which means less than. A result of <5 means that the lowest level that could be detected was 5 and the contaminant in that sample was not detected.

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

IDSE: Initial Distribution System Evaluation

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. Food and Drug Administration regulations establish limits in bottled water which must provide the same protection for public health. The state allows us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though accurate, is more than one year old.

Contaminant	Unit	MCL	MCLG	Level Detected	Range Detected	Violation (Yes/No)	Year Sampled	Potential Source of Contamination
Microbiological Contaminants								
+Turbidity	NTU	TT	NA	0.26 (Highest single sample) (All below MCL)	0.04 - 0.26	No	2009	Soil Runoff
*Total Organic Carbon	ppm	TT	NA	3.35 (Lowest running annual average)	3.35 - 3.50	No	2009	Naturally Present in the Environment.
+ Turbidity is a measure of the cloudiness of water and is an indication of the effectiveness of our filtration system. The turbidity limit set by the EPA is 0.3 NTU in 95% of the daily samples and shall not exceed 1 NTU at any time.								
*The value reported under "Level Detected" for Total Organic Carbon (TOC) is the lowest running annual average ratio between the percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than one (1) 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. The value reported under the "Range" for TOC is the lowest monthly ratio to the highest monthly ratio.								
Contaminant	Unit	MCL	MCLG	Level Detected	Range Detected	Violation (Yes/No)	Year Sampled	Potential Source of Contamination
Inorganic Contaminants								
*Lead	ppm	15=AL	0	<5.0 (90 th percentile) 29 of 30 samples were below AL	<5 - 15.8	No	2008	Corrosion of household plumbing systems.
*Copper	ppm	1.3=AL	1.3	<0.50 (90 th percentile) 30 of 30 samples were below AL	<0.05 - 0.07	No	2008	Corrosion of household plumbing systems.
Lead and Copper samples were taken from specific sites within the distribution system and may not represent what is in your particular home. The 90 th percentile indicates that 90% of the samples were equal to or less than the number on the chart.								
Fluoride	ppm	4	4	1.06 (maximum monthly average)	0.81 - 1.26	No	2009	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate	ppm	10	10	4.20 (Highest single sample)	0.21 - 4.20	No	2009	Runoff from fertilizer use; leaching from septic tanks, sewage; Erosion of natural deposits
Contaminant	Unit	MCL	MCLG	Level Detected	Range Detected	Violation (Yes/No)	Year Sampled	Potential Source of Contamination
Synthetic Organic Compounds (SOC's)								
Atrazine	ppb	3	3	0.20 (Highest single sample)	0.07 - 0.20	No	2009	Runoff from herbicide used on row crops
Di(2-ethylhexyl) phthalate	ppb	6	0	1.10 (Single sample)	n/a	No	2009	Discharge from rubber and chemical factories
Contaminant	Unit	MCL	MCLG	Level Detected	Range Detected	Violation (Yes/No)	Year Sampled	Potential Source of Contamination
Volatile Organic Compounds								
1,4-Dichlorobenzene	ppb	75	75	0.21 (Highest single sample)	0.11-0.21	No	2009	Discharge from industrial chemical factories

Contaminant	Unit	MCL	MCLG	Level Detected	Range Detected	Violation (Yes/No)	Year Sampled	Potential Source of Contamination
Residual Disinfection								
Total Chlorine	ppm	4	4	2.9 (Highest single sample)	1.7 - 2.9	No	2009	Water additive used to control microbes
Disinfection Byproducts								
Contaminant	Unit	MCL	MCLG	Level Detected	Range Detected	Violation (Yes/No)	Year Sampled	Potential Source of Contamination
Total Trihalomethanes (TTHM's)	ppb	80	0	38.7 Highest Compliance Value (Running annual average)	23.8 - 55.5	No	2009	By-product of drinking water chlorination
Haloacetic Acids (HAA5's)	ppb	60	0	13.5 Highest Compliance Value (Running annual average)	7.4 - 16.4	No	2009	
IDSE Total Trihalomethanes (TTHM's)	ppb	80	0	NA	35.4 - 84.7	No	2008	
IDSE Haloacetic Acids (HAA5's)	ppb	60	0	NA	4.5 - 19.2	No	2008	
TTHM & HAA5 samples were taken from specific sites within the distribution system and may not represent what is in your particular home. The IDSE TTHM & HAA5 samples required by USEPA, under the Stage 2 Disinfectants/Disinfection Byproducts Rule (D/DBPR) rule.								
Unregulated Contaminants								
Contaminant	Unit	MCL	MCLG	Level Detected	Range Detected	Violation (Yes/No)	Year Sampled	Potential Source of Contamination
Monochloroacetic Acid	ppb	NA	NA	1.3 (Annual average)	1.1 - 1.9	No	2009	By-product of drinking water chlorination
Dichloroacetic Acid	ppb	NA	0	5.6 (Annual average)	4.6 - 6.8	No	2009	
Trichloroacetic Acid	ppb	NA	30.0	1.5 (Annual average)	1.0 - 2.2	No	2009	
Dibromoacetic Acid	ppb	NA	NA	1.3 (Annual average)	1.2 - 1.4	No	2009	
Chloroform	ppb	NA	NA	12.2 (Annual average)	7.1-18.4	No	2009	
Bromoform	ppb	NA	0	0.54 (Annual average)	0.44 - 0.66	No	2009	
Bromodichloromethane	ppb	NA	0	7.8 (Annual average)	6.2 - 9.8	No	2009	
Dibromochloromethane	ppb	NA	60.0	4.2 (Annual average)	3.1 - 4.8	No	2009	
Sulfate	ppm	NA	NA	50.4 (Annual average)	34.4 - 66.9	No	2009	Erosion of Natural Deposits

National Secondary Drinking Water Regulations are non-enforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water.		
Contaminant	Secondary Standard mg/l	Sidney mg/l
Chloride	250	23.7 - 36.7
Color	15 (color units)	0 (color units)
Corrosivity	Non-corrosive	Non-corrosive
Odor	3 (TON)	0 (TON)
PH	7.0 - 10.5	9.1
Total Dissolved Solids	500	124 - 248
The data below represents contaminants analyzed for which there is no MCL limit.		
Contaminant		Sidney mg/l
Total Alkalinity		58
Total Hardness		115
Non-Carbonate Hardness		57
Magnesium		8