

2011 WATER QUALITY CONSUMER CONFIDENCE REPORT

The City of Clayton has prepared the following report to provide information to you, the consumer, on the quality of our drinking water for testing year 2010. This report has been prepared as part of state and federal requirements to inform the consumer as mandated by the Safe Drinking Water Act. We welcome the opportunity to inform residents and business owners of our high water quality.



OUR WATER SOURCE

Clayton's water is supplied by the City of Dayton distributed through a network of pipelines originating at the City's water treatment plant. The source of this water is the Miami Valley Buried Aquifer. The Aquifer is a large underground area of water-bearing sand and gravel deposits. This groundwater is influenced by surface water. The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells.

The Treatment Process

The City of Dayton has two water treatment plants which treat water that is pumped from wells. Wells pump extremely "hard" water to treatment plants for softening. "Hard" water has natural minerals which can clog pipes and water heaters over time. At the water treatment plants lime is reacted with minerals in water to reduce "hardness". Then, fluoride and chlorine are added. Rapid sand filtration is the final step in the treatment process. After filtration, water is pumped to the distribution system.



Radon is a radioactive gas that is formed by the decay of uranium in rocks and soil. As water passes through rocks and soil, radon is dissolved into ground water. Dayton's water plants had a maximum radon concentration of 111 pCi/L in 2010. This is below the expected standard.

What are possible sources of contamination to drinking water?

Drinking water, including bottled water, may reasonably be expected to contain at least some small amount of contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about the contaminants and potential health effects can be obtained by calling EPA's Safe Drinking Water Hotline at 1-800-426-4791.

As water travels through the ground on its way to the aquifer, it dissolves naturally occurring minerals and also can pick up substances resulting from the presence of animals or human activities.

Contaminants can include:

- Viruses and bacteria that may come from septic tanks, wastewater treatment plants, livestock, and wildlife.
- Salts and metals that can be natural or result from stormwater runoff, wastewater discharges, and farming.
- Pesticides and herbicides that can come from a variety of sources such as agriculture, stormwater runoff, and residential uses.
- Organic chemicals that originate from agriculture, industrial processes, petroleum production, gas stations, stormwater runoff, and septic systems.
- Radioactive substances that can be naturally occurring or the result of oil and gas production and mining activities.

In order to ensure tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in the water provided by public water systems. Food and Drug Administration regulations limit contaminants in bottled water.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as persons with cancer who are undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune-systems disorders, some elderly persons and infants can be particularly at risk for infection. These people should seek advice from their healthcare providers about drinking water. EPA and Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe

Source Water Assessment: The Ohio EPA conducted a source water assessment of Dayton's water source. The assessment concluded that the aquifer supplying water to the City of Dayton's well fields has a high susceptibility to contamination. This determination is based on: the influence of surface water recharge to the aquifer; the presence of a relatively thin protective layer of clay overlaying the aquifer; the shallow depth of the aquifer; contaminant plums in Dayton's well field protection area; the presence of significant potential contaminant sources in the protection area; and the presence of contaminants in treated water. More information about the source water assessment or what consumer can do to help protect the aquifer is available by calling the Division of Environmental Management at (937) 333-3725.

2011 Water Quality Consumer Confidence Report

The following results summarize tests performed in 2010

Regulated Substance	Highest Level Allowed (MCL)	Ideal Goals (MCLG)	Highest Level Detected	Range of Detection	Violation	Sources of Contaminants
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Regulated at the Treatment Plant – By City of Dayton *

Fluoride (ppm)	4	4	1.21	0.81—1.21	No	Natural geology/supplement
Nitrate (ppm)	10	10	1.56	1.15—1.56	No	Fertilizer runoff/natural geology
Turbidity (NTU)	TT = 1	N/A	0.76	0.02—0.76	No	Lime softening residuals
	TT: ≥ 95% must be ≤ 0.3		100%			
Total Organic Carbon (TOC)	TT	N/A	1.0 ppm	0.54—1.13	No	Naturally in the environment

*City of Clayton purchases treated water from the City of Dayton. Please visit their website to view the City of Dayton water quality report for above compounds at www.cityofdayton.org.

Regulated at the Customer's Tap

Lead (ppb)	AL = 15	0	0	0—0	No	Corrosion of household plumbing systems; Erosion of natural deposits.
*Lead samples are taken Bi-annually. 5 samples were taken for Lead and the results were within compliance.						
Copper (ppm)	AL = 1.3	1.3	0.175	0—0	No	Erosion of natural deposits; Leaching from wood preservatives; Corrosion of household plumbing systems.
*Copper samples are taken Bi-annually. 6 samples were taken for Copper and the results were within compliance.						

Regulated in the Distribution System

Disinfectants and Disinfection By-Products

Total Trihalomethanes (TTHm)*	80	N/A	28	20.78—31.44	No	By-product of drinking water chlorination
Haloacetic Acids (ppb)	60	N/A	8	5.654—9.3	No	By-product of drinking water chlorination

*Trihalomethane and Haloacetic samples are taken Quarterly

Chlorine (ppm)	MRDL=4	MRDLG=4	1.41	0.00 — 1.41	No	Water additive to control microbes
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*Chlorine Samples are taken Daily

Unregulated Compounds-concentration in ppb (Average and range are shown for Distribution System samples)

Bromodichloromethane	N/A	N/A	10.22	6.95 — 10.22	No	
Bromoform	N/A	N/A	3.42	1.87 — 3.42	No	
Chloroform	N/A	N/A	8.79	5.24 — 8.79	No	By-products of drinking water chlorination
Dibromochloromethane	N/A	N/A	10.93	6.72 — 10.93	No	

*Samples are taken Quarterly

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 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.

TT = Treatment Technique – A required process intended to reduce the level of a contaminant in drinking water.

AL = Action Level – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements for a water system.

pCi/l = picocuries per liter (a measure of radioactivity)

ppm = parts per million

ppb = parts per billion

N/A = Not applicable

ND = Not detected

≤ = less than or equal to

≥ = greater than or equal to

> = greater than

< = less than

2010: All samples reported were taken in the 2010 calendar year. Total water samples taken for total coliform and e-coli were all negative. Total samples: 13