

Your Involvement in Water Decisions

We encourage public comment on decisions affecting drinking water. The Butler County Board of Commissioners meetings are open to the public and held on Mondays and Thursdays. Call 887-3782 for details. We also welcome your questions or comments by mail or through our website at www.butlercountyohio.org/des.

WANT MORE INFORMATION?

If you have questions or comments about this report or other issues, please contact us by mail, through our website (www.butlercountyohio.org/des) or by phone: Customer Service 887-3066
24-hour emergency line 887-3066
To arrange a free tour of one of our facilities, call 887-3967

Other sources of drinking water information:

www.epa.state.oh.us/ddagw
Ohio Environmental Protection Agency Division of Drinking Water & Groundwater

www.epa.gov/safewater/kids/health.html
An EPA booklet titled "Children and Drinking Water Standards" explains how drinking water standards are set to protect especially vulnerable groups, such as children, and encourages parents to learn about their local water supply.

www.epa.gov/safewater
Environmental Protection Agency's Safe Drinking Water
EPA Safe Drinking Water Hotline 800-426-4791

2003 WATER QUALITY REPORT

Please share this report with renters or others who do not receive water bills. If you need more copies, call 887-3066.



2003 WATER QUALITY REPORT

BUTLER COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES

What you should know about your **DRINKING WATER**

PRSTD STD
U. S. Postage
PAID
Middletown, Ohio
Permit #8

Butler County Department of Environmental Services
Butler County Administrative Center
130 High Street
Hamilton, Ohio 45011



Your drinking water has consistently met or surpassed all water quality standards and inspections required by both the Federal and Ohio Environmental Protection Agencies. BCDES has prepared this report to provide information to you on the quality of your drinking water.



Ensuring High Quality Water

BCDES purchases the treated drinking water that we deliver to you from three suppliers—the City of Hamilton, Cincinnati Water Works, and the Southwest Regional Water District. These suppliers ensure the quality of your water through strictly monitored treatment processes, including plant and laboratory testing for over 150 contaminants. In addition, BCDES protects water quality by monitoring our water system operations 24 hours a day and performing numerous tests each month.



Protecting the Future Safety of Your Drinking Water

Ohio EPA's Source Water Assessment Program is aimed at protecting drinking water sources throughout Ohio. According to OEPA's assessments, the Great Miami Valley Aquifer, which is a source to our water suppliers, is highly susceptible to contamination. The deficiency of a protective clay layer, the shallow depth of the water table, low levels of nitrates and the presence of nearby pollutant sources make this aquifer vulnerable to contamination.

Local water providers, including our three water suppliers, recognized the vulnerability of the Great Miami Valley Aquifer over a decade ago. Working together as members of the Hamilton to New Baltimore Groundwater Consortium, they have developed and implemented an award-winning groundwater protection program, the Wellhead Protection Program, to prevent contamination from entering the Aquifer.

Individuals also play an important role in protecting groundwater from contamination and costly cleanup. Help safeguard your water source by properly disposing of materials and not dumping chemicals and oils in your backyard.

You may obtain more information about Ohio's Source Water Assessment Program and copies of completed assessments from OEPA's website: www.epa.state.oh.us. For more information on the Wellhead Protection Program, contact the program coordinator, Tim McLelland, at 868-5993 or visit www.gwconsortium.org. For additional information on protecting drinking water sources, visit www.epa.gov/safewater/protect.html.

A Further Protection—Water System Security

Security has always been a priority in providing high quality water to our community. A diligent sampling and monitoring program is part of standard operations throughout the entire water system. BCDES employees have been alert to anything out of the ordinary since the attacks on 9/11. We have also implemented a Water Watchers Program, enlisting volunteers who live by water tanks to observe and report any suspicious persons, vehicles, or irregular activities that cause concern.

Monitoring for Cryptosporidium and Radon

Cryptosporidium is a microbial parasite found in surface water throughout the United States. Although filtration removes cryptosporidium, the most commonly used filtration methods cannot guarantee 100% removal. Current test methods do not enable us to determine if the organisms are dead or if they are capable of causing disease. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water. 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 a life threatening illness. We encourage immuno-compromised individuals to consult with their doctor regarding appropriate precautions to take to avoid infection.

BCDES has monitored your drinking water for cryptosporidium and none has ever been found in the treated water.

Surface water sources are at a higher risk for having cryptosporidium than groundwater sources. Cincinnati Water Works, our only surface water supplier, has been routinely monitoring their source and treated waters since 1991. Cryptosporidium has never been detected in their treated water.

Radon is a radioactive gas that occurs naturally in some ground water. It may pose a health risk when the gas is released from water into air, as occurs during showering, bathing, or washing dishes and clothes. Radon gas released from drinking water is a relatively small part of the total radon in air. Major sources of radon gas are soil and cigarettes. Inhalation of radon gas has been linked to lung cancer; however, the effects of radon ingested in drinking water are not yet clear. If you are concerned about radon in your home, tests are available to determine the total exposure level. For additional information on how to have your home tested, call 1-800-SOS-RADON.

Currently, there is no Maximum Contaminant Level for radon in drinking water. The Southwest Regional Water District, which supplies water to our Queen Acres system, monitored for radon in their finished water during 2003. Three samples were collected and the average radon level was 335 pCi/L, with a detection range of not detected-335 pCi/L. Cincinnati Water Works, which supplies water to our Port Union area, collected one sample for radon in their finished water during 2001 with a radon value of 200 pCi/L. The City of Hamilton, which supplies water to Sharon Park and Water District 2, monitored for radon in their finished water at their North and South Plants in 2000. The North Plant collected one sample with a radon value of 32 pCi/L. The South Plant collected two samples, with an average of 78 pCi/L and a detection range of 75-81 pCi/L.



Important Health Information

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. Guidelines from the Environmental Protection Agency and the Centers for Disease Control and Prevention on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline.

About Lead

Infants and young children are typically more vulnerable to lead in drinking water than the general population. Materials used in your plumbing may result in lead levels at your home being higher than at other homes in the community. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline.

Safe Drinking Water Hotline
800-426-4791

BCDES

PROVIDING HIGH QUALITY WATER... ENSURING SAFETY & SECURITY!

Butler County Board of Commissioners—Charles R. Furmon, Michael A. Fox, Gregory V. Jolivette

printed on recycled paper

TEST RESULTS



TERMS TO KNOW

in Reading the Water Test Results

AL (Action Level) – The concentration of a contaminant, which if exceeded, triggers treatment or other requirements that 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 contamination.

n/a (not applicable) – There is no set MCL, MCLG or the test is not required.

ND (Not Detected) – The substance was not detected or was below the detectable limits of the test.

pCi/l (Picocuries per liter) – The unit of measure for radioactivity in water.

ppm (parts per million) – A unit of measure for concentration of a contaminant. The equivalent of one drop of water in 42 gallons.

ppb (parts per billion) – A unit of measure for concentration of a contaminant. The equivalent of one drop of water in 14,000 gallons.

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

NTU (Nephelometric Turbidity Units) – unit of measure for the size and concentration of particles in water.

< – symbol meaning “less than.” Example: A result of <5 means that the lowest level that could be detected was 5 and the contaminant was not detected in that sample.

≤ - symbol meaning “less than or equal to.” Example: A limit of ≤ 0.5 means that the reported value is in compliance if the result is 0.5 or less.

> - symbol meaning “greater than.” Example: The Treatment Technique used for Total Organic Carbon (TOC) must be a number greater than 1 to be in compliance.

The EPA requires regular sampling to ensure drinking water safety. The charts below show the water testing results for your water throughout 2003 and how it compares to federal and state standards. The charts for each service area are different because monitoring requirements vary for BCDES and our water suppliers, depending upon certain situations, such as the size of the system or their use of groundwater or surface water. The Ohio EPA requires monitoring for some substances less than once per year because the concentrations of these contaminants do not change frequently.

IF YOU LIVE IN THE PORT UNION AREA...

your water is purchased from the Cincinnati Water Works. The source of this water is the Ohio River and the Great Miami Aquifer.

Regulated Substances Detected

Better than EPA Standard	Sample Year	Substance	Typical Source	EPA Ideal Goal (MCLG)	Highest EPA Allowed Level (MCL)	Level Found / Range of Detections	Is this a violation?
✓	2003	Copper	Corrosion of household plumbing; erosion of natural deposits	1.3 ppm	AL = 1.3 ppm	<0.050 / <0.050 – 0.121	No
✓	2003	Total Trihalomethanes	By-product of drinking water disinfection	0 ppb	100 ppb	8.19 / 6.79 – 8.19	No
✓	2003	Haloacetic Acids HAA5	By-product of drinking water disinfection	n/a	60 ppb	2.95 / 0.89 – 2.95	No
✓	2001	Gross Beta	Decay of natural and man-made deposits	0 pCi/L	50 pCi/L	4.8 / n/a	No
✓	2003	Fluoride	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories	4 ppm	4 ppm	1.1 / 0.80 – 1.10	No
✓	2003	Nitrate	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	10 ppm	10 ppm	2.75 / 0.82 – 2.75	No
✓	2003	Total Organic Carbon	Naturally present in the environment	n/a	TT value >1 = compliance	2.5 / 1.59 – 3.50	No
✓	2003	Total Chlorine	Water additive used to control microbes	4 ppm (MRDLG)	4 ppm (MRDL)	0.74 / 0.71 – 0.74	No
✓	2003	Turbidity	Soil runoff	n/a	TT < 1 NTU max and <0.3 NTU 95% of daily samples	0.11 – 100% <0.3 / 0.05 – 0.11	No

Turbidity is a measure of the cloudiness of water and is an indication of the effectiveness of the filtration system. As reported above, the highest recorded turbidity result in 2003 for Port Union was 0.11 and the lowest monthly percentage of samples meeting the turbidity limits was 100%.

Unregulated Substances Detected

The EPA requires monitoring for some contaminants that are not currently regulated. While EPA has set ideal goals for some of these contaminants, no limits have been set and enforced. Unregulated contaminant monitoring helps EPA to determine where certain contaminants occur and whether those contaminants should be regulated.

Substance	EPA MCL	Average Level Detected / Range of Detections
Chloroform	n/a	7.51 / 0 – 13.6 ppb
Bromodichloromethane	n/a	9.96 / 1.5 – 13.8 ppb
Dibromochloromethane	n/a	11.5 / 7.8 – 17.0 ppb
Bromoform	n/a	7.05 / 1.4 – 15.7 ppb
Sulfate	n/a	68 / 50 – 78 ppm
1,1-Dichloropropanone	n/a	ND / ND – 2.04 ppb
1,1,1-Trichloropropanone	n/a	ND / ND – 1.70 ppb
Trichloroacetonitrile	n/a	ND / ND – 1.28 ppb
Dichloroacetonitrile	n/a	1.62 / ND – 2.12 ppb
Bromochloroacetonitrile	n/a	1.35 / ND – 2.55 ppb
Dibromoacetonitrile	n/a	3.84 / ND – 4.83 ppb
Chloral Hydrate	n/a	0.58 / ND – 1.97 ppb
Total Organic Halide	n/a	ND / ND – 73.1 ppb
Free Chlorine Residual	n/a	0.92 / 0.55 – 1.27 ppm

IF YOU LIVE IN THE QUEEN ACRES SUBDIVISION...

your water is purchased from the Southwest Regional Water District. The District uses groundwater from the Great Miami Aquifer.

Regulated Substances Detected

Better than EPA Standard	Sample Year	Substance	Typical Source	EPA Ideal Goal (MCLG)	Highest EPA Allowed Level (MCL)	Level Found / Range of Detections	Is this a violation?
✓	2003	Lead	Corrosion of household plumbing; erosion of natural deposits	0 ppb	AL 15 ppb	<5.0 / <5.0 – 7.0	No
✓	2003	Copper	Corrosion of household plumbing; erosion of natural deposits	1.3 ppm	AL 1.3 ppm	0.699 / 0.076 – 1.01	No
✓	2003	Total Trihalomethanes	By-product of drinking water chlorination	0 ppb	100 ppb	14.48 / 3.5 – 14.48	No
✓	2003	Gross Beta	Decay of natural and man-made deposits	0 pCi/L	50 pCi/L	1.01 / ND – 1.01	No
✓	2003	Gross Alpha	Erosion of natural deposits	0 pCi/L	15 pCi/L	1.8 / ND – 1.8	No
✓	2003	Fluoride	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories	4 ppm	4 ppm	1.18 / 0.87 – 1.18	No
✓	2003	Nitrate	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	10 ppm	10 ppm	4.2 / 3.48 – 4.2	No
✓	2003	Total Chlorine	Water additive used to control microbes	4 ppm (MRDLG)	4 ppm (MRDL)	0.77 / 0.74 – 0.77	No

Unregulated Substances Detected

The EPA requires monitoring for some contaminants that are not currently regulated. While EPA has set ideal goals for some of these contaminants, no limits have been set and enforced. Unregulated contaminant monitoring helps EPA to determine where certain contaminants occur and whether those contaminants should be regulated.

Substance	EPA MCL	Average Level Detected / Range of Detections
Chloroform	n/a	4.64 / 0.99 – 4.64 ppb
Bromodichloromethane	n/a	5.71 / 1.34 – 5.71 ppb
Dibromochloromethane	n/a	4.13 / 1.17 – 4.13 ppb
Bromoform	n/a	1.07 / ND – 1.07 ppb
Sulfate	n/a	42.8 / 42.3 – 42.8 ppm

IF YOU LIVE IN THE SHARON PARK SUBDIVISION...

your water is purchased from the City of Hamilton. The city uses groundwater from the Great Miami Aquifer.

Regulated Substances Detected

Better than EPA Standard	Sample Year	Substance	Typical Source	EPA Ideal Goal (MCLG)	Highest EPA Allowed Level (MCL)	Level Found / Range of Detections	Is this a violation?
✓	2003	Lead	Corrosion of household plumbing; erosion of natural deposits	0 ppb	AL 15 ppb	14.2 / <5.0 – 142.4	No
✓	2003	Copper	Corrosion of household plumbing; erosion of natural deposits	1.3 ppm	AL 1.3 ppm	<0.050 / <0.050 – 0.073	No
✓	2003	Total Trihalomethanes	By-product of drinking water chlorination	0 ppb	100 ppb	2.6 / 0.3 – 2.6	No
✓	2003	Fluoride	Erosion of natural deposits; Water additive that promotes strong teeth; discharge from fertilizer and aluminum factories	4 ppm	4 ppm	1.3 / 0.41 – 1.30	No
✓	2003	Nitrate	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	10 ppm	10 ppm	1.25 / 0.06 – 1.25	No
✓	2003	Total Chlorine	Water additive used to control microbes	4 ppm (MRDLG)	4 ppm (MRDL)	0.77 / 0.74 – 0.77	No
✓	2003	Chlorine Dioxide	Water additive used to control microbes	800 ppb (MRDLG)	800 ppb (MRDL)	350 / 100 – 350	No
✓	2003	Chlorite	By-product of drinking water chlorination	0.8 ppm	1 ppm	1 / ND – 1.00	No

Unregulated Substances Detected

The EPA requires monitoring for some contaminants that are not currently regulated. While EPA has set ideal goals for some of these contaminants, no limits have been set and enforced. Unregulated contaminant monitoring helps EPA to determine where certain contaminants occur and whether those contaminants should be regulated.

Substance	EPA MCL	Average Level Detected / Range of Detections
Monochloroacetic acid	n/a	3.68 / ND – 3.68 ppm
Chloroform	n/a	5.2 / ND – 16.7 ppb

IF YOU LIVE IN WATER DISTRICT 2...

which includes Fairfield, Lemon, Liberty, and Westchester Townships, your water is purchased from the City of Hamilton and supplemented occasionally from Cincinnati Water Works. In 2003, District 2 did not receive any water from Cincinnati Water Works.

Regulated Substances Detected

Better than EPA Standard	Sample Year	Substance	Typical Source	EPA Ideal Goal (MCLG)	Highest EPA Allowed Level (MCL)	Level Found / Range of Detections	Is this a violation?
✓	2003	Total Coliform	Naturally present in the environment	0%	5% of monthly samples	1% / 0 – 1%	No
✓	2002	Lead	Corrosion of household plumbing; erosion of natural deposits	0 ppb	AL 15 ppb	<5.0 / <5.0 – 6.4	No
✓	2003	Total Trihalomethanes	By-product of drinking water chlorination	0 ppb	100 ppb	7.06 / 4.53 – 7.06	No
✓	2003	Fluoride	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories	4 ppm	4 ppm	1.3 / 0.41 – 1.30	No
✓	2003	Nitrate	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	10 ppm	10 ppm	1.25 / 0.06 – 1.25	No
✓	2003	Chlorine Dioxide	Water additive used to control microbes	800 ppb (MRDLG)	800 ppb (MRDL)	350 / 100 – 350	No
✓	2003	Chlorite	By-product of drinking water chlorination	0.8 ppm	1 ppm	1 / ND – 1.00	No

Unregulated Substances Detected

The EPA requires monitoring for some contaminants that are not currently regulated. While EPA has set ideal goals for some of these contaminants, no limits have been set and enforced. Unregulated contaminant monitoring helps EPA to determine where certain contaminants occur and whether those contaminants should be regulated.

Substance	EPA MCL	Average Level Detected / Range of Detections
Monochloroacetic acid	n/a	3.68 / ND – 3.68 ppm
Bromodichloromethane	n/a	1.53 / ND – 2.5 ppb
Dibromochloromethane	n/a	8.05 / 2.4 – 9.7 ppb
Bromoform	n/a	18.65 / 4.8 – 25.4 ppb

SUBSTANCES IN DRINKING WATER

About Contaminants...

The sources of drinking water (both tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells, which are subject to potential “contamination” by a wide variety of substances that occur naturally or are man-made. As water travels over the surface of the land or through the ground, it dissolves natural minerals, and, in some cases, radioactive material, and can pick up substances resulting from human activity or the presence of animals.

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 the water poses a health risk.

In order to ensure that tap water is safe to drink, USEPA prescribes regulations which 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.

Contaminants that may be present in source water before it is treated:

Microbial contaminants, such as viruses and bacteria that 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 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 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

More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency’s Safe Drinking Water Hotline at 1-800-426-4791.

