

Annual
WaterQuality
Report
Water testing performed in 2010



Presented By _____



Quality First Quality First

Once again we are proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2010. As in years past, we are committed to delivering the best-quality drinking water possible. To that end, we remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while continuing to serve the needs of all of our water users. Thank you for allowing us to continue providing you and your family with quality drinking water.

We encourage you to share your thoughts with us on the information contained in this report. Should you ever have any questions or concerns, we are always available to assist you.

Community Participation

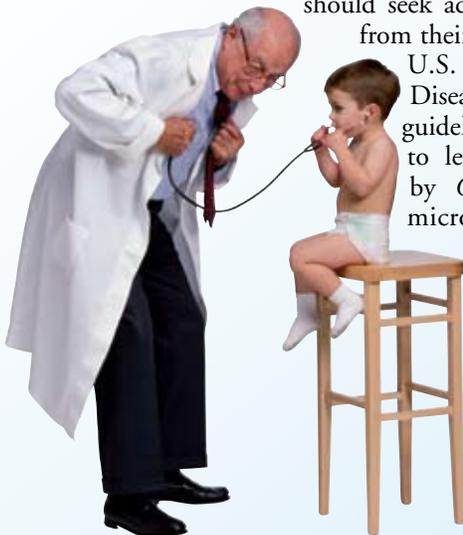
You are invited to attend our regular Board of Commissioners meetings. They normally meet monthly on the third Tuesday of each month at the District's Customer Service Center, located at 1400 Rogersville Road, Radcliff, KY. For more information about the meetings, contact Ms. Christie Campbell at (270) 351-3222. Minutes of past board meetings are available on our Web site at www.HCWD.com.

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 or <http://water.epa.gov/drink/hotline>.



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.

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.

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 may be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Wellhead Protection Plan

The Hardin County Water District No. 1 (District) has completed Phase II of the Wellhead Protection Plan (WHPP). We have also completed a source water assessment study that classified our water source as groundwater that is affected by the flow and seepage of surface water. The WHPP requires us to identify the area basins that drain into our raw water source, to identify possible types and sources of contamination, and then to develop programs or additional measures to better protect this source water from these contaminants. Our water plant found that its sources include two separate sources that do not share the same water. The Pirtle Spring, located at the plant site, collects water from a 27-square-mile area. The Head of Rough Spring, located about 1.5 miles from the water plant, receives water from a 17-square-mile area. The District's staff and a public committee are working with the Kentucky Division of Water and the Kentucky Rural Water Association as well as Hardin County Planning and Zoning to develop protection strategies and action plans. These requirements will provide better source water protection from possible contaminants.

A copy of these reports are available by contacting us during regular business hours.

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. Hardin County Water District No. 1 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 www.epa.gov/safewater/lead.

How Is My Water Treated and Purified?

The Pirtle Spring Water Treatment Plant (PWP) uses a three-step treatment process. This includes clarification to remove larger particles in the raw water. We also add powdered, activated carbon to absorb many other types of chemicals or contaminants. The water then passes through a multimedia filter system that uses four sizes of sand and gravel, plus a layer of anthracite coal. The new filters (installed in 2009) are able to remove many other microscopic particles and contaminants. Finally, the treated water is kept in a holding tank where it is completely disinfected to meet all state and federal requirements. The finished water is then pumped through more than 200 miles of water mains until it reaches five storage tanks that can store up to 3.7 million gallons of treated water.

Always Improving

Your locally owned water utility is always looking for ways to improve. Recently, our Board of Commissioners adopted several long-range goals. These 21 different goals are meant to bring improvements in the area of technology use, customer service, business practices, financial stability, and human resources and employee development. For example, one of the goals is to develop alternative or off-site bill paying options. We have recently added iCall, which allows customers to make payments over the phone and check balance and payment history. You can call (877) 495-5519 any time day or night and use this option. We have also improved our Web site (www.HCWD.com) to make it easier to pay through the internet, giving more options and improving security of your personal information.

Last year, we completed the rebuild of our Pirtle Spring Water Treatment Plant. The new plant has improved filters, is much more energy efficient, has better chemical feed systems, and includes two new water quality laboratories. We recently hired a Water Quality/Measurement Specialist. One of her jobs will be to respond to customer inquiries about water quality, as well as outfit and have certified a new Bacteriological Laboratory. We will also be able to complete in-house studies and trials to better improve water quality.

We replaced a section of a critical water transmission main that brings your water from the water plant into Radcliff and Vine Grove. This new main is larger and made of much better material, to reduce the number of main breaks we had over the last three decades from the old main.

We are also about half way through a plan to change all our water meters to a new radio-read type. These will allow us to read meters much quicker and help keep our costs of reading down in the future. In 2010, we found out we were approved for a low-interest loan for a new water tank in Radcliff. If we accept this loan, the new tank will slightly increase water pressure in most parts of Radcliff and provide more treated water storage for emergencies or fire fighting demands.

Where Does My Water Come From?

The sources of water for our Pirtle Spring Water Treatment Plant (PWP) are the Pirtle Spring, located at the plant site, and the Head of Rough Spring, located about 1.5 miles from the plant. Both sources are treated at the PWP. The plant is staffed 24 hours a day, 365 days a year.

We also are connected to the Fort Knox water system (Department of the Army, Directorate of Base Operations & Support). Fort Knox has two sources, including 15 deep wells on the West Point Aquifer and a spring source near Otter Creek. A copy of the Fort Knox annual water quality report may be obtained by contacting Mr. Bob Ender at the water plant, (270) 624-5252, or Mr. Eric Brown at the Fort Knox Environmental Office, (270) 624-8239/3629. Our interconnect allows us to purchase up to 2.7 million gallons per day (mg/d).

In 2010, the PWP treated 1,020 million gallons (MG), and we purchased 84 MG, or 0.3 million gallons per day (mg/d), for resale. Our maximum demand was 4.098 mg/d and the average daily was 3.025 mg/d. Of all our water demand, 38 percent was provided to other water systems for resale to their customers. For 2010, our customer and system total demand was 1,104 MG, which was 8 percent more than the previous year.

Questions?

For more information about this report, or for any questions relating to your drinking water, please call Amanda Spalding, Water Quality/Measurement Specialist, by phone at (270) 862-4340 or (270) 351-3222, or by fax at (270) 862-5740. She can also be contacted via e-mail at aspalding@hcwd.com.

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. The state requires 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									
				Hardin County Water District No. 1		Fort Knox Water Plant			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2008	15	0	0.0	ND-0.4	0.98	0.16-1.8	No	Erosion of natural deposits
Barium (ppm)	2010	2	2	0.027	NA	0.025 ¹	0.016-0.025 ¹	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2010	[4]	[4]	2.25	1.00-2.25	2.00	1.28-3.32	No	Water additive used to control microbes
Combined Radium (pCi/L)	2008	5	0	0.9	0.2-1.6	0.48	0.45-0.51	No	Erosion of natural deposits
Fluoride (ppm)	2010	4	4	0.91	0.81-1.00	1.05	0.88-1.8	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA] (ppb)	2010	60	NA	44	5-49	9	5-19	No	By-product of drinking water disinfection
Nitrate (ppm)	2010	10	10	1.19	NA	2.32	ND-2.32	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2010	80	NA	39	10-44	17	11-37	No	By-product of drinking water disinfection
Total Organic Carbon (ppm)	2010	TT	NA	1.49	1.00-4.16	NA	NA	No	Naturally present in the environment
Total Organic Carbon (removal ratio)	2010	TT	NA	NA	NA	10.7	1.00-67.45	No	Naturally present in the environment
Turbidity ² (NTU)	2010	TT=1	NA	0.08	0.02-0.08	0.28	NA	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2010	TT=95% of samples<0.3	NA	100	NA	95	NA	No	Soil runoff
Uranium (pCi/L)	2008	30	0	NA	NA	0.14	0.01-0.18	No	Erosion of natural deposits
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	VIOLATION	TYPICAL SOURCE		
Copper (ppm)	2010	1.3	1.3	0.464	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives		
Lead (ppb)	2010	15	0	4	0/30	No	Corrosion of household plumbing systems; Erosion of natural deposits		

SECONDARY SUBSTANCES

				Hardin County Water District No. 1		Fort Knox Water Plant			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Aluminum (ppb)	2010	200	NA	50	NA	0.264	0.158–0.264	No	Erosion of natural deposits; Residual from some surface water treatment processes
Chloride (ppm)	2010	250	NA	9.46	NA	22	18–22	No	Runoff/leaching from natural deposits
Corrosivity (Units)	2010	Non-corrosive	NA	-0.50	NA	NA	NA	No	Natural or industrially influenced balance of hydrogen, carbon, and oxygen in the water; Affected by temperature and other factors
Fluoride (ppm)	2010	2.0	NA	0.81	NA	0.94	0.88–0.94	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
pH (Units)	2010	6.5–8.5	NA	7.68	6.42–7.68	8.42	8.12–8.42	No	Naturally occurring
Sulfate (ppm)	2010	250	NA	12.4	NA	40.3	30.3–40.3	No	Runoff/leaching from natural deposits; Industrial wastes
Total Dissolved Solids [TDS] (ppm)	2010	500	NA	206	NA	220	127–220	No	Runoff/leaching from natural deposits

UNREGULATED AND OTHER SUBSTANCES (FORT KNOX WATER PLANT)

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Haloacetic Acids [HAA]–IDSE Results (ppb)	2010	NA	7–14	No	By-product of drinking water disinfection
Sodium (ppm)	2010	11.6	9.62–11.6	No	Naturally occurring
TTHMs [Total Trihalomethanes]–IDSE Results (ppb)	2010	NA	12–50	No	By-product of drinking water disinfection

¹ Sampled in 2010.

² 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.

Definitions

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