A Translated Copy Is Available Upon Request

Annual

WATER QUALITY REPORT

Reporting Year 2013

Hardin County 1 Water District

Presented By

Hardin County Water District No. 1

PWS ID#: 0470393 & 0470990

There When You Need Us

We are once again proud to present our annual water quality report covering all testing performed between January 1 and December 31, 2013. Over the years we have dedicated ourselves to producing drinking water that meets and exceeds all state and federal standards. We continually strive to adopt new methods for delivering the best quality drinking water to you. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

Please remember that we are always available to assist you should you ever have any questions or concerns about your water.

Where Does My Water Come From?

We own and operate both the Ft. Knox Water System (since 2012) as well as the original Hardin County Water District No. 1 system (1952). These systems include three water treatment plants (WTPs) and four separate water sources supplying these WTPs. The WTPs are the Pirtle Spring Water Treatment Plant (PWP), and two WTPs on Ft. Knox -- the Central (CWP) and Muldraugh (MWP). At certain times of the year, the Ft. Knox WTPs provide water to our county system customers.

The source waters for the PWP are the Pirtle Spring, located at the plant site, and the Head of Rough Spring, located about 1.5 miles from the plant. The MWP is supplied by 15 deep underground water wells located on the West Point aquifer near the Ohio River. The CWP can be supplied by a surface water source near Otter Creek, known as McCracken Spring, as well as the same well sources that supply the MWP.

During 2013 a total of 1,628 MG (million gallons) of potable water was treated and a total of 10.4 MG was purchased for resale to other water systems. The total water delivered to the county and Ft. Knox systems was 1,639 MG. The maximum demand day was 5.987 MG and occurred on September 29. The average daily water demand for the year was 4.490 MG. Wholesale customers purchased 342.4 MG, which was equivalent to 21% of total water sold.

Community Participation

You are invited to attend our regular Board of Commissioners meetings. They normally meet monthly on the third Tuesday of each month, 11:30 am at the District's Customer Service Center located at 1400 Rogersville Road, Radcliff. For more information about the meetings, contact Ms. Andrea Palmer at (270) 351-3222. Minutes of past board meetings are available on our Web site at www.HCWD.com.

Substances That Could Be in Water

To ensure that tap water is safe to drink, 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.

How Is My Water Treated and Purified?

All three WTPs use a three-step treatment process. This includes clarification to remove larger particles in the raw water. The PWP and MWP 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 filters 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 400 miles of water mains until it reaches 13 storage tanks that can store up to 7 million gallons of treated water.

The PWP was completely rebuilt in 2009 and has won four industry awards since. Tours may be arranged for school and civic groups at any of our WTPs. Contact Ms. Spalding to arrange a tour.

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.

Recognition of Excellence

During 2013, HCWD1 was recognized again for its excellence in operations and quality employees. As part of its AWOP, the Kentucky Division of Water (KY-DOW) recognized the Pirtle Spring WTP for treating water to higher standards than required by the EPA for both turbidity (sixth consecutive year) and disinfection by-products. The CKWWOA awarded the Pirtle Spring WTP as the 2013 Water Treatment Plant of the Year, for similar sized plants. The CKWWOA also selected HCWD1's County Distribution Supervisor, Mr. Tim Osborne, as the Water System Operator of the Year. Finally, the Kentucky-Tennessee chapter of the American Water Works Association presented an Operations Excellence Award to HCWD1's County Distribution System.

Lead in Home Plumbing

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.

Questions?

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

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Monitoring Requirements Not Met for Hardin County Water District No. 1/Fort Knox Water (PWS 0470990)

Our water system violated drinking water requirements over the past year. Even though these were not emergencies, as our customers, you have a right to know what happened and what we are doing to correct the situation.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During March 2013, we did not complete all monitoring or testing for chlorine and therefore cannot be sure of the quality of your drinking water during that time.

Chlorine is the water additive used to control microbes.

What should I do?

There is nothing that you need to do at this time. You may continue to drink the water. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

All of the required chlorine testing was performed in the appropriate time frame and all results fell within our compliance range, but the incorrect report was submitted to our regulatory agencies. We have since submitted the correct report.

What is being done?

We have reviewed and revised the reporting procedures of all of our regulatory samples. We will continue to follow our required monitoring schedule and have since submitted all reports in the appropriate timeframe.

For more information, please contact Ms. Amanda Spalding at (270)862-4340 or at 1400 Rogersville Rd. Radcliff, KY 40160.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by Hardin County Water District No. 1/Fort Knox Water. State Water System ID#: KY0470990. Date Distributed: May 2014.

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 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 to better protect this source water from these contaminants. Our water plant found that its sources include two separate watersheds. 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. Both of these watersheds are in largely agricultural areas and subject our treatment process to contaminants from agricultural runoff including fertilizers, pesticides, and herbicides. Both the county and Ft. Knox WHPPs will be updated periodically. A copy of these reports is available by contacting us during regular business hours.

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.

Our Ft. Knox Water System participated in the 3rd stage of EPA's Unregulated Contaminant Monitoring Regulation (UCMR3) program by performing additional tests on our drinking water for 30 unregulated contaminants for four consecutive quarters in 2013. The County system is scheduled to begin the same UCMR3 monitoring in April 2014. UCMR3 benefits the environment and public health by providing EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if EPA needs to introduce new regulatory standards to improve drinking water quality. Any UCMR3 detections are shown in the data tables in this report. Contact us for more information on this program.

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	NA	NA	0.98	0.16–1.8	No	Erosion of natural deposits
Barium (ppm)	2013	2	2	0.029	NA	NA	NA	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Chlorine (ppm)	2013	[4]	[4]	1.11	0.31–2.19	1.27	0.29–2.01	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)	2013	4	4	0.9	NA	0.8	0.4–1.2	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA]–Stage 1 (ppb)	2013	60	NA	25.9	11–49	2.3	1–8.1	No	By-product of drinking water disinfection
Haloacetic Acids [HAA]–Stage 2 (ppb)	2013	60	NA	22	13–30	1.8	1.3–2.3	No	By-product of drinking water disinfection
Mercury [inorganic] (ppb)	2013	2	2	0.2	NA	NA	NA	No	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland
Nitrate (ppm)	2013	10	10	1.8	NA	0.2	0.2–0.2	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes]–Stage 1 (ppb)	2013	80	NA	24.2	11–44	12.5	7.1–31.5	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes]–Stage 2 (ppb)	2013	80	NA	48.5	25–78	11.5	7.4–19.3	No	By-product of drinking water disinfection
Total Coliform Bacteria[1] (% positive samples)	2013	5% of monthly samples are positive	0	4.8	0–4.8	NA	NA	No	Naturally present in the environment
Total Organic Carbon[2] (ppm)	2013	TT	NA	1.4	0.6–3.3	0.534	0.5–0.853	No	Naturally present in the environment
Turbidity[3] (NTU)	2013	TT=1 NTU	NA	0.109	0.021–0.109	0.216	0.021–0.216	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2013	TT=95% of samples <0.3 NTU	NA	100	NA	100	NA	No	Soil runoff
Uranium (ppb)	2008	30	0	NA	NA	0.14	0.10–0.18	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	Hardin County Water District No. 1 AMOUNT DETECTED (90TH%TILE)	Hardin County Water District No. 1 SITES ABOVE AL/ TOTAL SITES	Fort Knox Water Plant AMOUNT DETECTED (90TH%TILE)	Fort Knox Water Plant SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2013	1.3	1.3	0.277	0/30	0.018[4]	0/30[4]	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2013	15	0	5.3	0/30	NA	NA	No	Corrosion of household plumbing systems; Erosion of natural deposits

UNREGULATED SUBSTANCES (UCMR3) - FT. KNOX WATER TREATMENT PLANTS

SUBSTANCE (UNIT OF MEASURE)	AVERAGE	HIGHEST LEVEL DETECTED	RANGE OF DETECTIONS	AVERAGE	HIGHEST LEVEL DETECTED	RANGE OF DETECTIONS
Chlorate (ppb)	123	220	52–220	79	110	48–110
Chromium-6 (ppb)	0.42	0.58	0.28–0.58	0.33	0.40	0.25–0.40
Chromium-total (ppb)	0.53	0.90	0.3–0.90	0.25	0.30	0.2–0.3
Molybdenum (ppb)	2.1	2.6	1.5–2.6	3.55	3.6	3.5–3.6
Strontium (ppb)	135	160	110–160	96	110	82–110
Vanadium (ppb)	BDL	0.2	BDL–0.2	0.5	0.6	0.4–0.6

Public Notice of Availability of Data: In 2013, Hardin County Water District #1/Fort Knox (PWSID: KY0470990), completed unregulated contaminant monitoring as required by the Unregulated Contaminant Monitoring Rule 3 (UCMR3). Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of the unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. The detected contaminants from this monitoring are listed above under the Unregulated Contaminants section of this Water Quality Table. A list of all analytical results are available to the public by calling Amanda Spalding at 270-862-4340 or emailing aspalding@hcwd.com.

[1] The District generally collects 32 total coliform samples per month. In December of 2013, we had three positive total coliform samples. Each of these three samples were *E. coli* negative and all resamples were total coliform negative. In addition, the District collected a total of 62 routine samples during this month.

[2] The monthly ratio is the percent of TOC removal achieved compared to the percent of TOC removal required. The annual average of monthly ratios must be 1.0 or greater for compliance. Hardin County Water District No. 1 and Ft. Knox Water achieved this criteria in 100% of the monthly samples.

[3] 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. Turbidity cannot exceed 1 NTU and must be <0.3 NTUs in greater than 95% of monthly samples.

[4] Sampled in 2011.

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. Secondary MCLs (SMCLs) are established to regulate the aesthetics of drinking water (i.e., taste and odor).

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

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).

TON (Threshold Odor Number): A measure of odor in water.

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