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Manchester Water Works pumps raw water from Bert T. Combs Lake and Goose Creek. If you live along Hwy 80 from Curry Branch to the Laurel County line or on Urban Creek, your drinking water may also come from East Laurel Water District(PWSID:KY-0630797). Thier water source is Wood Creek Lake. If you live on Hwy 11 South from Roller Dome Hollow to the Knox County line, your water may also come from Barbourville Utility Commission(PWSID:KY-0610016). Thier water source is Laurel Lake. All sources are considered surface water sources. In the following treated water summary table, water from Manchester Water Works will be designated as A, East Laurel Water District will designated as B, and Barbourville Utility Commission will be designated as C. A summary of each system's source water assessment, as required by the Safe Drinking Water Act Amenment of 1996, is included after the table.

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 Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).

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 may pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include: Microbial contaminants, such as viruses and bacteria, (sewage plants, septic systems, livestock operations, or wildlife). Inorganic contaminants, such as salts and metals, (naturally occurring or from stormwater runoff, wastewater discharges, oil and gas production, mining, or farming). Pesticides and herbicides, (stormwater runoff, agriculture or residential uses). Organic chemical contaminants, including synthetic and volatile organic chemicals, (by-products of industrial processes and petroleum production, or from gas stations, stormwater runoff, or septic systems). Radioactive contaminants, (naturally occurring or from oil and gas production or mining activities). In order to ensure that tap water is safe to drink, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water to provide the same protection for public health.

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. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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. Your local public water system 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 <http://www.epa.gov/safewater/lead>.

Some or all of these definitions may be found in this report:

Maximum Contaminant Level (MCL) - 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.

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 Residual Disinfectant Level (MRDL) - 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.

Maximum Residual Disinfectant Level Goal (MRDLG) - 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.

Below Detection Levels (BDL) - laboratory analysis indicates that the contaminant is not present.

Not Applicable (N/A) - does not apply.

Parts per million (ppm) - or milligrams per liter, (mg/l). One part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) - or micrograms per liter, ($\mu\text{g/L}$). One part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Parts per trillion (ppt) - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

Parts per quadrillion (ppq) - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.

Picocuries per liter (pCi/L) - a measure of the radioactivity in water.

Millirems per year (mrem/yr) - measure of radiation absorbed by the body.

Million Fibers per Liter (MFL) - a measure of the presence of asbestos fibers that are longer than 10 micrometers.

Nephelometric Turbidity Unit (NTU) - a measure of the clarity of water. Turbidity has no health effects. However, turbidity can provide a medium for microbial growth.

Turbidity is monitored because it is a good indicator of the effectiveness of the filtration system.

Variances & Exemptions (V&E) - State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

Action Level (AL) - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system shall follow.

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

Spanish (Español) Este informe contiene información muy importante sobre la calidad de su agua beber. Tradúzcalo o hable con alguien que lo entienda bien.

The data presented in this report are from the most recent testing done in accordance with administrative regulations in 401 KAR Chapter 8. As authorized and approved by EPA, the State has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data in this table, though representative, may be more than one year old. Copies of this report are available upon request by contacting our office during business hours.

To understand the possible health effects described for many regulated contaminants, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

	A=Manchester Water Works PWSID=KY0260737	B=East Laurel Water District PWSID=KY0630797	C=Barbourville Utility Commission PWSID=KY0610016
	Allowable Levels	Highest Single Measurement	Lowest Monthly %
Turbidity (NTU) TT	No more than 1 NTU*	0.11	100
* Representative samples of filtered water	Less than 0.3 NTU in 95% monthly samples	0.09	100
		0.06	100

Regulated Contaminant Test Results

Contaminant [code] (units)	MCL	MCLG	Source	Report Level	Range of Detection	Date of Sample	Violation	Likely Source of Contamination
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Inorganic Contaminants

Barium [1010] (ppm)	2	2	A=	0.018	0.018 to 0.018	Apr-18	No	Drilling wastes; metal refineries; erosion of natural deposits
			B=	0.011	0.011 to 0.011	Aug-18	No	
			C=	0.015	0.015 to 0.015	Feb-18	No	
Copper [1022] (ppm) sites exceeding action level 0	AL = 1.3	1.3	A=	0.233 (90 th percentile)	0.003 to 0.346	Sep-18	No	Corrosion of household plumbing systems
Cyanide [1024] (ppb)	200	200	B=	20	20 to 20	Aug-18	No	Discharge from steel/metal factories; plastic and fertilizer factories
Fluoride [1025] (ppm)	4	4	A=	0.72	0.72 to 0.72	Apr-18	No	Water additive which promotes strong teeth
			B=	0.7	0.7 to 0.7	Aug-18	No	
			C=	0.4	0.4 to 0.4	Aug-18	No	
Lead [1030] (ppb) sites exceeding action level 0	AL = 15	0	A=	0 (90 th percentile)	0 to 1	Sep-18	No	Corrosion of household plumbing systems
Nickel (ppb) (US EPA remanded MCL in February 1995.)	N/A	N/A	A=	9	9 to 9	Apr-18	No	N/A
Nitrate [1040] (ppm)	10	10	A=	0.17	0.17 to 0.17	Mar-18	No	Fertilizer runoff; leaching from septic tanks, sewage; erosion of natural deposits
			B=	0.21	0.21 to 0.21	Feb-18	No	
			C=	0.52	0.52 to 0.52	Apr-18	No	

Disinfectants/Disinfection Byproducts and Precursors

Total Organic Carbon (ppm) (report level=lowest avg. range of monthly ratios)	TT*	N/A	A=	1.01	1 to 1.31	2018	No	Naturally present in environment.
			B=	1.08	1 to 1.67	2018	No	
			C=	1.16	1 to 2.59	2018	No	

*Monthly ratio is the % TOC removal achieved to the % TOC removal required. Annual average must be 1.00 or greater for compliance.

Chlorine (ppm)	MRDL = 4	MRDLG = 4	A=	1.42 (highest average)	0.84 to 1.91	2018	No	Water additive used to control microbes.
HAA (ppb) (Stage 2) [Haloacetic acids]	60	N/A	A=	47 (average)	25.6 to 35.8 (range of individual sites)	2018	No	Byproduct of drinking water disinfection
TTHM (ppb) (Stage 2) [total trihalomethanes]	80	N/A	A=	66 (average)	13 to 92 (range of individual sites)	2018	No	Byproduct of drinking water disinfection.

Unregulated Contaminants (UCMR 4)

	average	range (ppb)	date
Manganese	A 3.4	3.4 to 3.4	Jul-18
HAA5	A 34	22 to 58	Oct-18
HAA6Br	A 10.5	7.6 to 14	Oct-18
HAA9	A 43.75	34 to 66	Oct-18

Your drinking water has been sampled for a series of unregulated contaminants. Unregulated contaminants are those that EPA has not established drinking water standards. There are no MCLs and therefore no violations if found. The purpose of monitoring for these contaminants is to help EPA determine where the contaminants occur and whether they should have a standard. As our customers, you have a right to know that these data are available. If you are interested in examining the results, please contact our office during normal business hours.

	Average	Range of Detection
Sodium (EPA guidance level = 20 mg/L) A=	7.10	7.06 to 7.06

Source Water Assessment Plans

Manchester Water Works(PWSID=KY0260737) Source Water Assessment Plan(SWAP) is available for inspection at City Hall. Activities and land uses upstream of Manchester Water Works source of water can pose potential risks to your drinking water. An analysis of the susceptibility of the Manchester water supply to contamination indicates that this susceptibility is generally moderate. The potential threats immediately upstream of the Goose Creek water supply are bridges and culverts, KPDES dischargers, railroads, row crops, sewer lines, Tier II chemical users, underground storage tanks, Superfund sites, landfills, waste generators and transporters, and active mining sites. The largest potential contaminant threat immediately upstream of the Bert T Combs Lake is land coverage. The predominant land cover could be subject to logging, which may result in soil erosion if Best Management Practices are not carefully applied.

East Laurel Water District's(PWSID=KY0630797) SWAP is available for inspection at the Laurel County Judge's office or the Cumberland Valley Area Development District office in London. Their source water assessment indicates that some of the activities immediately upstream of the water supply pose a high susceptibility to contamination. Activities that have the potential to affect the water quality and the cost of treating the water includes agricultural, transportation, landfills and dumps, and human and animal activities. The presence of excessive nutrients is of particular concern. Two general sources of nutrients in the water supply are from natural and man-made sources. Nutrients are either dumped directly into waterways or swept through the areas when rain washes over the land.

Barbourville's(PWSID=KY0610016) SWAP is available for inspection at the Cumberland Valley Area Development District office in London. Their source water assessment indicates that the susceptibility to contamination for the primary intake on Laurel Lake is borderline. The susceptibility to the Cumberland River intake is generally moderate. The potential contaminants could include: highway maintenance and runoff, railroads; permitted wastewater point sources; waste storage tanks/storage tank leaks, above and below ground; onsite/decentralized/septic systems, straight pipes; and land cover.

Paper copies of this report can be picked up at City Hall or can be mailed to you upon request. Please contact Manchester City Hall to request a copy to be mailed to you at 606-598-3555.