



Duck River Utility Commission

"Pure and Plentiful Water for All Citizens"

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DRUC 2003 Water Quality Report

UTILITY INFORMATION

The Duck River Utility Commission is the water authority that provides pure and plentiful water to Manchester and Tullahoma as well as portions of the surrounding counties. The DRUC is a government agency formed in 1976 and operates a potable water filtration plant and other facilities located between Tullahoma and Manchester near Normandy Reservoir. The DRUC facilities are operated twenty-four hours a day by State certified personnel and can produce up to 7.5 million gallons of drinking water each day.

WATER SOURCE

The DRUC water treatment plant withdraws water from Normandy Reservoir, which was constructed by TVA in 1976. The reservoir is filled by flow from the upper Duck River basin. TVA owns all of the land surrounding the reservoir and is actively working with the DRUC and the Tennessee Division of Water Pollution Control to protect the reservoir from sources of pollution. A source water assessment program is under development for the reservoir and will be available to the public in the near future.

THE TREATMENT PROCESS

The DRUC water treatment plant utilizes advanced water treatment technology to remove both particulate matter and dissolved contaminants from the water before it is disinfected and pumped to the distribution system. The raw water entering the treatment plant from the reservoir is first oxidized and disinfected by the injection of chlorine dioxide. Traditional pretreatment with gaseous chlorine was discontinued in 1988 in favor of chlorine dioxide because it does not create certain byproducts regulated by the EPA

After oxidation and disinfection, particulate matter is coagulated using aluminum sulfate. The "alum" causes the particles in the water to stick to each other, increasing the overall size and weight of the particles. The water then moves into settling basins where these new larger particles sink to the bottom and are removed. The clarified water off the top of the basins then travels into the filter building where the water passes through huge granular activated carbon filters. The 1,300 square feet of filters can remove any remaining particulate matter and absorb organic compounds such as objectionable tastes and odors.

After charcoal filtration, the water is pH neutralized and a chlorine disinfectant residual is added before the water is

pumped to the distribution system. Fluoride is also added to prevent tooth decay at the State required level of one part per million.

INFORMATION AND INVOLVEMENT

For more information about this report or any other water quality questions, contact the DRUC at (931) 455-6458 or on the Internet at www.druc.org or by email at manager@druc.org. The Duck River Utility Commission meets the third Wednesday of every month at 6:00 PM at the DRUC offices near Tullahoma, Tennessee. The Public is always welcome to participate.

CUSTOMER COMMITMENT

The DRUC is committed to producing safe and reliable water for all of our customers' needs. The DRUC is proud to report that the water produced by the filtration plant met or exceeded all federal and state standards for drinking water during 1999. In fact, the DRUC has never violated any EPA or State standard or regulation.

The Commission is also very proud of the perfect scores of 100% achieved on the past three Tennessee Division of Water Supply inspections. The Commission employs a full time staff to manage, operate and monitor both lake and production water quality including environmental engineers, biologists/chemists and certified water treatment plant operators. Thousands of tests are conducted each month on water samples at the treatment plant and throughout the distribution systems to ensure that the water remains safe and pure at all times. Over the past ten years the DRUC has invested over \$2,000,000.00 in upgrades to the treatment facilities to improve quality and reliability, all without a single rate increase.

EPA REQUIRED INFORMATION

All 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 can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotlineb (800 426-4791).

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, reservoirs, ponds, 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 can pick up substances resulting from the presence of animals or from human activity.

VULNERABLE POPULATIONS

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 food preparation, sanitation and handling of infants or pets as well as drinking water from their health care providers.

EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbiological contaminants are available from the Safe Drinking Water Hotline toll free at (800-426-4791) or on the Internet at www.epa.gov/ogwdw.

2002 WATER QUALITY DATA

QUALITY ASSURANCE

In order to ensure that tap water is safe, the U.S. Environmental Protection Agency prescribes regulations that require utilities to monitor regularly for numerous substances in the water it produces. An independent laboratory certified by the EPA and the State of Tennessee performs this testing. All testing by the DRUC is conducted in compliance with current regulations. **The water produced by the DRUC has never exceeded the limits for any regulated compound or substance as established by the State of Tennessee or U. S. EPA.**

TEST RESULTS – NONE DETECTED

Analysis is routinely performed for the following list of regulated substances and **NONE** were detected in the drinking water.

<i>Primary Inorganics</i>	<i>ASBESTOS</i>	<i>VOLATILE ORGANICS</i>	<i>SYNTHETIC ORGANICS</i>
Arsenic	Asbestos Fibers	Fluorotrichloromethane	Aldicarb
Antimony	<i>RADIONUCLIDES</i>	Hexachloro-1,3-butadiene	Aldicarb Sulfone
Beryllium	Gross Alpha Particles	Isopropylbenzene	Aldicarb Sulfoxide
Cadmium	<i>VOLATILE ORGANICS</i>	p-Isopropyltoluene	Aldrin
Chromium	Bromobenzene	Naphthalene	Butachlor
Cyanide	Bromochloromethane	n-Propylbenzene	Carbaryl
Mercury	Bromodichloromethane	Styrene	Dalapon
Nickel	Bromomethane	Tetrachloroethane	Dicamba
Selenium	Butylbenzene	Tetrachloroethylene	Dieldrin
Thallium	Chlorobenzene	Toluene	Dinoseb
<i>PRIMARY ORGANICS</i>	Chlorodibromomethane	Trichlorobenzene	Hexachlorobenzene
Benzene	Chloroethane	Trichloroethane	3-Hydroxycarbofuran
CarbonTetrachloride	Chloromethane	Trichloropropane	Methomyl
Dichloroethane	o-Chlorotoluene	Trimethylbenzene	Metolachlor
Dichloroethylene	p-Chlorotoluene	Xylene	Metribuzin
Endrin	Dibromomethane	<i>SYNTHETIC ORGANICS</i>	Oxamyl
Lindane	m-Dichlorobenzene	Altachlor	Picloram
Methoxychlor	o-Dichlorobenzene	Atrazine	Propachlor
Paradichlorobenzene	Dichlorodifluoromethane	Carbofuran	Simazine
Toxaphene	Dichloroethane	Chlordane	Benzo(a)pyrene
Trichloroethane	Dichloroethylene	Heptachlor	Di(2-ethylhexyl)adipate
Trichloroethylene	Dichloromethane	Heptachlorepoxyde	Di(2-ethylhexyl)phthalate
VinylChloride	Dichloropropane	PCB	Endothall
2,4-D	Dichloropropene	Pentachlorophenol	Glyphosate
2,4,5-TP (Silvex)	Ethylbenzene	2,3,7,8-TCDD (Dioxin)	Hexachlorocyclopentadiene

TEST RESULTS – REQUIRED REPORTING AND DETECTED COMPOUNDS

The following water quality analysis and testing information is required reporting or are substances that were detected in the drinking water. All of the substances that were detected are present at levels well below the U. S. EPA limits and do not pose a health risk to the general public.

Substance (units)	EPA Limit (MCL)	DRUC Maximum	DRUC Range	EPA Goal (MCLG)	Possible Source of the Contaminant
Microbial Contaminants					Very small organisms such as bacteria
Total Coliform (# Positive)	< 2	0	0	0	Naturally present in the environment
Fecal Coliform (# Positive)	0	0	0	0	Human and animal fecal waste
Inorganic Compounds					Substances of mineral origin
Turbidity (NTU) <small>100% less than 0.50</small>	0.50	0.12	0.03 – 0.12	N/A	Soil runoff
Barium (ppm)	2.0	0.022	0.022	2.0	Natural Erosion, drilling, metal refining
Fluoride (ppm)	4.0	1.00	0.52-1.00	4.0	Added to prevent tooth decay, natural erosion
Chlorite (ppm)	1.0	0.61	0.00-0.61	0.80	Byproduct of drinking water chlorination
Nitrate (ppm)	10.0	0.60	0.60	10.0	Agricultural runoff, natural erosion
Copper (ppm) <small>No samples exceeded action limit</small>	AL = 1.3	0.44	0.04 – 0.44	1.3	Corrosion of household plumbing, erosion –2002 Data
Lead (ppb) <small>No samples exceeded action limit</small>	AL = 15.0	11.0	1.1 – 11.0	0	Corrosion of household plumbing, erosion –2002 Data
Organic Compounds					Natural or synthetic carbon based compounds
Haloacetic Acids Total (ppb)	80	26	0-66	0	Byproduct of drinking water chlorination
Trihalomethanes Total (ppb)	100	25	11-48	0	Byproduct of drinking water chlorination

MCL: Maximum Contaminant Level, or 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, or 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. **NTU:** Nephelometric Turbidity Unit; a measure of particles in the water. **ppb:** Parts per billion or micrograms per liter. **ppm:** parts per million or milligrams per liter. **Action Level:** The concentration of a contaminant which, if exceeded, triggers a treatment or other requirement which a water system must follow.