

**METRO UTILITY DEPARTMENT #2**  
**2007 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 is conducted in compliance with current regulations. The water provided to the Metro Utility Department by the DRUC through the TUB 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 has been routinely performed for the following list of regulated substances and NONE were detected in the drinking water.

<i>Primary Organics</i>	<i>Volatile Organics</i>	<i>VOLATILE ORGANICS</i>	<i>Inorganics</i>	<i>SYNTHETIC ORGANICS</i>	<i>SYNTHETIC ORGANICS</i>	
Alachlor	Bromobenzene	Dichloropropane	Arsenic	Carbofuran	Metolachlor	
Aldicarb	Bromochloromethane	Dichloropropene	Antimony	Chlordane	Metribuzin	
Benzene	Bromodichloromethane	Ethylbenzene	Beryllium	Dalapon	Oxamyl	
CarbonTetrachloride	Bromomethane	Fluorotrichloromethane	Cadmium	Dicamba	PCB 1016	
Dichloroethane	Butylbenzene	Hexachloro-1,3-butadiene	Chromium	Dieldrin	PCB 1221	
Dichloroethylene	Chlorobenzene	Isopropylbenzene	Cyanide	Dinoseb	PCB 1232	
Endrin	Chlorodibromomethane	p-Isopropyltoluene	Mercury	Di(2-ethylhexyl)adipate	PCB 1242	
Lindane	Chloroethane	Naphthalene	Nickel	Di(2-ethylhexyl)phthalate	PCB 1248	
Methoxychlor	Chloromethane	n-Propylbenzene	Selenium	2,3,7,8-TCDD (Dioxin)	PCB 1254	
Paradichlorobenzene	o-Chlorotoluene	Styrene	Thallium	Endothall	PCB 1260	
Toxaphene	p-Chlorotoluene	Tetrachloroethane	<i>Synthetic Organics</i>	Ethylene dibromide	Pentachlorophenol	
Trichloroethane	Dibromomethane	Tetrachloroethylene		Aldicarb	Glyphosate	Picloram
Trichloroethylene	m-Dichlorobenzene	Toluene		Aldicarb Sulfone	Heptachlor	Propachlor
VinylChloride	o-Dichlorobenzene	Trichlorobenzene		Aldicarb Sulfoxide	Heptachlorepoxide	Simazine
2,4-D	Dichlorodifluoromethane	Trichloroethane	Aldrin	Hexachlorobenzene	<i>Radionuclides</i>	
2,4,5-TP (Silvex)	Dichloroethane	Trichloropropane	Butachlor	Hexachlorocyclopentadiene		Gross Alpha
<i>ASBESTOS</i>	Dichloroethylene	Trimethylbenzene	Benzo(a)pyrene	3-Hydroxycarbofuran	Radium 226	
Asbestos Fibers	Dichloromethane	Xylene	Carbaryl	Methomyl	Radium 228	

*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)	MUD#2 Maximum	MUD#2 Range	EPA Goal (MCLG)	Possible Source of the Contaminant
<b>Microbial Contaminants</b>					Very small organisms such as bacteria
Total Coliform (# Positive)	< 2	0	0	0	Naturally present in the environment
Fecal Coliform & E. Coli (# Positive)	0	0	0	0	Human and animal fecal waste
Total Organic Carbon (ppm)	TT*	2.0	1.6-2.0	N/A	Naturally present in the environment
Turbidity (NTU)	TT*	0.11	0.03 - 0.11	N/A	Turbidity does not present any risk to your health and is measured to assess the effectiveness of the filtration system.
<b>Inorganic Compounds</b>					Substances of mineral origin
Barium (ppm)	2	0.024	0.024	2	Natural Erosion, drilling wastes, metal refinery waste
Chlorine (ppm)	MRDL = 4	1.95	1.13 – 1.95	MRDLG = 4	Water additive used to control microbes
Chlorine Dioxide (ppb)	800	450	0 - 450	800	Water additive used to control microbes

Chlorite (ppm)	1	0.78	0.00 - 0.78	0.80	Byproduct of drinking water chlorination
Fluoride (ppm)	4	0.82	0.00 - 0.2	4	Added to prevent tooth decay, natural erosion
Nitrate (ppm)	10	0.33	0.33	10	Agricultural runoff, natural erosion, sewage discharge
Sodium (ppm)	N/A	3.5	3.5	N/A	Natural erosion, component of water additives
Copper (ppm)	None of 30 samples exceeded action limit AL = 1.3	0.28	0.01 - 0.70	1.3	Corrosion of household plumbing 2005 Data
Lead (ppb)	One of 30 samples exceeded action limit AL = 15	3	0.0 - 30.0	0	Corrosion of household plumbing 2005 Data
Organic Compounds					Natural or synthetic carbon base compounds
Atrazine (ppb)	3	0.10	0.00 - 0.10	3	Runoff from herbicide used on row crops
Haloacetic Acids Total (ppb)	60	33	19 - 37	0	Byproduct of drinking water chlorination
Trihalomethanes Total (ppb)	80	49	31 - 66	0	Byproduct of drinking water chlorination

DEFINITIONS: [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. [MRDL](#): Maximum Residual Disinfectant Level, or the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for the control of microbial contaminants. [MRDLG](#): Maximum Residual Disinfectant Level Goal, or 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 the disinfectants to control microbial contaminants. [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. [AL](#): Action Level, or the concentration of a contaminant which, if exceeded, triggers treatment or other requirement which a water system must follow. [TT](#): Treatment Technique, or a required process intended to reduce the level of a contaminant in drinking water. \* The Treatment Technique requirements for both Turbidity and Total Organic Carbon were met throughout the year.

#### *TEST RESULTS – SOURCE WATER MONITORING*

The DRUC water source, Normandy Reservoir, is very clean and the DRUC encounters no difficulty in treating the water to EPA and State of Tennessee standards. The DRUC routinely monitors the reservoir water for various contaminants and any indication of potential pollution. Prevention of pollution of our water source is one of our highest priorities. Below is a summary of recent source water testing in cooperation with other agencies including the USEPA, State of Tennessee and Tennessee Valley Authority. NONE of these contaminants have ever been found in the treated water distributed to customers. These tests are strictly results on raw untreated water from Normandy Reservoir.

CRYPTOSPORIDIUM OOCYSTS: From 2003 to 2008, the DRUC completed 24 months of testing on reservoir water for this common organism that can be found in nature, mostly as a result of the presence of wildlife and livestock animals. During only 5 of the 24 monthly sampling events were oocysts detected. Those five samples ranged from 1 to 17 oocysts/liter of water. The test results are very low indicating little contamination of the reservoir from livestock or wildlife.

NOTE: federal regulations now require all surface water systems serving more than 10,000 people to sample for Cryptosporidium. The DRUC had already completed this required testing. Cryptosporidium is a microbial parasite which is found in surface waters throughout the United

States. No *Cryptosporidium* oocysts were detected in any finished water samples. *Cryptosporidium* is effectively removed by filtration and the DRUC system currently provides treatment which is designed to remove *Cryptosporidium*. The USEPA has determined that the presence of *Cryptosporidium* at the concentration level reported in our source water is insignificant, based on the level of treatment we currently provide. Symptoms of *Cryptosporidium* infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals are able to overcome the disease within a few weeks. However, immune-compromised people have more difficulty and are greater risk of developing severe, life threatening illness. Immune-compromised individuals are encouraged to consult their doctor regarding appropriate precautions to take to prevent infection. For more information on *Cryptosporidium*, contact the Safe Drinking Water Hotline (800-426-4791).