

## Unregulated Contaminant Monitoring Rule Phase II (UCMR2) (Well Distribution Points)

ND means below detection level

As required by USEPA, monitoring of the following unregulated contaminants was accomplished in 2009 and 2010

Contaminant	Amount Detected	Contaminant	Amount Detected
Dimethoate	ND	2,2',4,4',6-pentabromodiphenyl	ND
Terbofos Sulfone	ND	2,2',4,4',5,5'-hexabromodiphenyl	ND
2,2',4,4'-tetrabromodiphenyl ether	ND	2,4,6-trinitrotoluene	ND
2,2',4,4',5-pentabromodiphenyl	ND	1,3-dinitrobenzene	ND
2,2',4,4',5,5'-hexabromodiphenyl ether	ND	Hexahydro-1,3,5-trinitro-1,3,5-triazena	ND

## Notice to Immuno-Compromised People

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 microbiological contaminants are available from the Safe Drinking Water Hotline 1-800-426-4791.

mail (200 Kilgore Drive; Dothan, AL 36301) or by e-mail (DothanUtilities@dothan.org). Your municipal water utility functions under the authority granted by the Dothan City Commission which meets the first and third Tuesday of each month at 10:00 a.m. in the Dothan Commission Chambers at the Dothan Civic Center.



Enjoy the convenience of accessing your Dothan Utilities account from your home or office! Customers may view billing history, payment activity and make payments online through our secure site at [www.dothan.org](http://www.dothan.org). Dothan Utilities also offers discounts to seniors (age 60 and over), budget billing and automatic bank draft.

## Closing

We at Dothan Utilities consistently strive to provide top quality water to every tap and for every customer. We ask all our customers to help us protect our water sources which are the heart of our community, our way of life and our children's future. If you have any questions concerning this report or your water utility, please contact the Dothan Utilities Water Section by telephone (334/615-3200), by Fax (334/615-3309), by

## Board of Commissioners

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**DOTHAN UTILITIES**

P.O. Box 2128  
Dothan, AL 36302

Visit the City of  
Dothan Web-Site at  
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## Terms & Abbreviations

In these tables, you will find many terms and abbreviations that might not be familiar. To help you better understand, we have provided the following definitions:

- **Non-Detects (ND)** - laboratory analysis indicates that the constituent is not present.
- **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 (mg/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) or Nanograms per liter (nanograms/l)** - 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) or Picograms per liter (picograms/l)** - 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)** - picocuries per liter is a measure of the radioactivity in water.
- **Millirems per year (mrem/yr)** - measure of radiation absorbed by the body.
- **Million Fibers per Liter (MFL)** - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.
- **Nephelometric Turbidity Unit (NTU)** - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
- **Action Level (AL)** - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- **Treatment Technique (TT)** - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.
- **Maximum Contaminant Level (MCL)** - The "Maximum Allowed" (MCL) is 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 "Goal" (MCLG) is 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 Goal or 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.
- **Maximum Residual Disinfectant Level or 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.
- **Below Detection Limits (BDL)** - Laboratory analysis indicates that the constituent is below detection limits.
- **Variations & Exemptions** - ADEM or EPA permission not to meet an MCL or a treatment technique under certain conditions.



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## 2010 Drinking Water Quality Report

### Introduction

We are pleased to present the 2010 Drinking Water Quality Report for the City of Dothan, Alabama. This report is designed to provide information about the quality of our water and associated services delivered during the previous calendar year. This publication complies with state and federal laws requiring water utilities to provide water quality information to their customers every year.

Based upon the findings of our water quality monitoring, Dothan's drinking water has been determined to be safe. It meets, or is better than, federal and state requirements and was in full compliance with all drinking water quality standards over the past year.

### Source of Our Water

Groundwater, our only source of potable water, is provided from shallow and deep wells. Depending upon the location and depth of each well, Dothan's high quality water comes from the following formations: Lisbon, Tallahatta, Hatchetigbee, Tuscahoma Sand, Nanafalia, Salt Mountain Limestone, Clayton, and Providence Sand. From our 34 wells (32 million gallons per day capacity) that are located throughout the City and surrounding areas, the Dothan Water



System provides an average usage of 12.7 million gallons of water per day. Therefore, approximately 4.6 billion gallons of water were pumped, prepared and safely distributed during 2010.

Dothan Utilities has a "Source Water Assessment Plan" that provides information about the location of our wells, screened intervals, groundwater data and potential sources of contamination. This plan, in conjunction with other



wellhead information collected, comprises items required in the voluntary wellhead protection program. The susceptibility analysis, which is the final section of the Source Water Assessment Plan, was completed in 2002 with the assistance of the Alabama Department of Environmental Management (ADEM). The most likely sources of possible contamination identified in our area are agricultural fields and privately-owned wells. The "Source Water Assessment Plan" is available for review at the Dothan Utilities Complex, 200 Kilgore Drive in Dothan, Alabama.

### Treatment of Dothan Water

Raw water must be properly treated prior to being pumped into the water distribution system. Treatment of our well water includes: addition of chlorine to help protect against bacteria; addition of fluoride to assist in preventing dental diseases; and the addition of phosphate to aid in the reduction of red water and leaching of metallic piping substances. After treatment, the water is either directly discharged into our distribution system or pumped to one of our thirteen water storage tanks.

### Water Quality Monitoring & Results

The Dothan Utilities Water System routinely monitors for constituents (sometimes referred to as "contaminants") in our drinking water according to federal and state laws. Tables in this report show the results of our monitoring for the period from January 1, 2009, to December 31, 2009, or our most recent testing results (prior to the 2009 calendar year) accomplished in accordance with applicable regulations. In order to ensure that

tap water is safe to drink, U.S. Environmental Protection Agency (EPA) and ADEM prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. Contaminants that may be present in source water include microbial contaminants, inorganic contaminants, pesticides and herbicides, organic chemical contaminants, and radioactive contaminants, along with their definitions. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. It is important to remember that the presence of contaminants does not necessarily indicate that water poses a health risk. Additional information about contaminants and their potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

### Discussion of Monitoring Results

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 (maximum contaminant level) for a lifetime to have a one-in-a-million chance of having the described health effect. Since the MCLs are set by the EPA at very stringent levels and because we meet or are better than all of the federal and state water quality standards as shown in the tables, it can be determined that the potable water distributed by the Dothan Water System is safe to drink.

### Additional Information

All of our water sources in Alabama start as rain water which fills our lakes, rivers and aquifers. 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 radioactive materials, and it can pick-up substances resulting from the presence of animals or from human activity. Therefore, it is important for each and every one of us to keep our environment clean, which will help protect our sources of drinking water and ultimately the health of our generation and future generations.

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## Table of Primary Drinking Water Contaminants (Well Distribution Points)

At high levels primary contaminants are known to pose a health risk to humans. This table provides a quick glance of any primary contaminant detections.

Contaminant	MCL	Amount Detected	Contaminant	MCL	Amount Detected
<b>MICROBACTERIOLOGICAL</b>					
Total Coliform Bacteria (2010)	5%	>1%	HAA5	60 ppb	ND
Fecal Coliform & E. coli (2010)	0	ND	Endothall	100 ppb	ND
Turbidity	TT	N/A	Endrin	2 ppb	ND
<b>RADIOACTIVE</b>					
Beta/Photon emitters (mrem/yr) (2003)	4	3.18	Epichlorohydrin	TT	N/A
Alpha emitters (pCi/L) (2004)	15	2.8	Glyphosate	700 ppb	ND
Combined Radium (pCi/L)(2003)	5	1.0	Heptachlor	400 ppt	ND
Uranium (pCi/L)	30 ppb	ND	Heptachlor epoxide	200 ppt	ND
<b>INORGANIC CHEMICALS</b>					
Antimony	6 ppb	ND	Hexachlorobenzene	1 ppb	ND
Arsenic	10 <sup>1</sup> ppb	ND	Hexachlorocyclopentadiene	50 ppm	ND
**Asbestos	7 MFL	N/A	Lindane	200 ppt	ND
Barium	2 ppm	0.06	Methoxychlor	40 ppb	ND
Beryllium	4 ppb	ND	Oxamyl [Vydate]	200 ppb	ND
Cadmium	5 ppb	ND	PCBs [Polychlorinated biphenyls]	500 ppt	ND
Chromium	100 ppb	ND	Pentachlorophenol	1 ppb	ND
Copper	AL=1.3 ppm	0.034	Picloram	500 ppb	ND
Cyanide	200 ppb	ND	Simazine	4 ppb	ND
Fluoride	4 ppm	1.07	Toxaphene	3 ppb	ND
Lead	AL=15 ppb	ND	<b>VOLATILE ORGANIC</b>		
Mercury [inorganic]	2 ppb	ND	Benzene	5 ppb	ND
Nickel	0.01 ppm	ND	Carbon Tetrachloride	5 ppb	ND
Nitrate	10 ppm	4.85	Chlorobenzene	100 ppb	ND
Nitrite	1 ppm	ND	Dibromochloropropane	200 ppt	N/A
Total Nitrate and Nitrite	10 ppm	4.85	0-Dichlorobenzene	600 ppb	ND
Selenium	50 ppb	ND	p-Dichlorobenzene	75 ppb	ND
Thallium	2 ppb	ND	1, 2-Dichloroethane	5 ppb	ND
<b>SYNTHETIC ORGANIC CHEMICALS</b> (Including Pesticides and Herbicides)					
2,4-D	70 ppb	ND	1, 1-Dichloroethylene	7 ppb	ND
2,4,5-TP [Silvex]	50 ppb	ND	cis-1, 2-Dichloroethylene	70 ppb	ND
Acrylamide	TT	N/A	trans-1,2-Dichloroethylene	100 ppb	ND
Alachlor	2 ppb	ND	Dichloromethane	5 ppb	ND
Benzo(a)pyrene [PAH] (nanograms/L)	200 ppt	ND	1, 2-Dichloropropane	5 ppb	ND
Carbofuran	40 ppb	ND	Ethylbenzene	700 ppb	ND
Chlordane	2 ppb	ND	Ethylene dibromide	50 ppt	ND
Dalapon	200 ppb	ND	Styrene	100 ppb	ND
Di-(2-ethylhexyl)adipate	400 ppb	ND	Tetrachloroethylene	5 ppb	ND
Di-(2-ethylhexyl)phthlate	6 ppb	ND	1, 1, 1-Trichloroethane	200 ppb	ND
Dibromochloro-propane	200 ppt	ND	1, 1, 2-Trichloroethane	5 ppb	ND
Dinoseb	7 ppb	ND	Trichloroethylene (TCE)	5 ppb	ND
Diquat	20 ppb	ND	TTHMs (Total trihalomethanes)	80 ppb	7.4
Dioxin[2,3,7,8-TCDD]	30 ppq	N/A	Toluene	1 ppm	ND
Chloramines	4 ppm	ND	Vinyl Chloride	2 ppb	ND
Chlorite	1 ppm	ND	Xylenes	10 ppm	ND
			Total Organic Carbon (TOC)	TT	N/A
			Chlorine	4 ppm	1.38
			Chlorine Dioxide	800 ppb	ND
			Bromate	10 ppb	ND

\*\* Based on a study conducted by the Department, with the approval of the EPA, a statewide waiver for the monitoring of Asbestos and Dioxin was issued. Thus, monitoring for these contaminants was not required.

## Disinfectants/Disinfection By-Product Rule Sampling Requirements (Selected Addresses)

Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	MCL	Likely Source of Contamination
TTHMs (2010) [Total Trihalomethanes]	N	4.6 (Avg), Range 2.2 to 6.9	ppb	0	80	By-product of drinking water chlorination
HAA5 (2010) [Total Haloacetic Acids]	N	BDL (Avg), Range BDL to BDL	ppb	0	60	By-product of drinking water chlorination

## Lead and Copper Monitoring 2010 (Select Addresses)

Contaminant	Samples Taken	Samples Exceeding Action Level	90th Percentile
Lead	31	0	<0.003
Copper	31	0	<0.32

## 2010 Special Monitoring Results for Corrosivity Characteristics

### SELECTED ADDRESSES

Contaminant	Average Detected	Detected Range	Unit Measurement	MCL
p/H	8.3	7.9 to 8.5	p/H scale	N/A
Total Alkalinity	149	139 to 165	ppm	N/A
Carbon Dioxide	7.9	7.0 to 8.8	ppm	N/A
Sodium	28.34	20.7 to 46.4	ppm	N/A
Sulfates	12.28	11.3 to 14.3	ppm	250
Calcium	35.43	25.1 to 46.5	ppm	N/A
Magnesium	6.64	6.01 to 7.78	ppm	N/A
Hardness	115.8	88 to 142	ppm	N/A
Total Dissolved Solids	248.4	200 to 296	ppm	500
Orthophosphate	0.28	0.14 to 0.47	ppm	N/A
Iron (2009)	BDL	BDL to 0.08	ppm	0.3
Phosphorus, Phosphate	2.24	1.9 to 2.9	ppm	N/A

## 2010 Special Monitoring Results for Corrosivity Characteristics

### WELL DISTRIBUTION POINTS

Contaminant	Average Detected	Detected Range	Unit Measurement	MCL
p/H	7.65	7 to 8.5	p/H scale	N/A
Total Alkalinity	154.89	135 to 200	ppm	N/A
Carbon Dioxide	13.02	7 to 20	ppm	N/A
Sodium	32.35	12 to 68.4	ppm	N/A
Sulfates	11.9	9.43 to 18.7	ppm	250
Calcium	31.16	5.64 to 52.7	ppm	N/A
Magnesium	6.20	2.57 to 10	ppm	N/A
Hardness	103.33	25 to 156	ppm	N/A
Total Dissolved Solids	226.71	190 to 320	ppm	500
Iron	0.12	0.05 to 0.274	ppm	0.3
Phosphate	0.45	0.43 to 0.49	ppm	N/A

## Detected Test Results (Well Distribution Points)

Contaminant	Violation Y/N	Level Detected	Detected Range	Unit Measurement	MCLG	MCL	Likely Source of Contamination
<b>RADIOACTIVE CONTAMINANTS</b>							
Alpha emitters (2004)	N	0.36 (Avg)	0.8 to 2.8	pCi/L	0	15	Erosion of natural deposits
Beta/Photon emitters (4mrem/yr) (2003)	N	3.18 (Avg)	2.0 to 4.6	mrem/yr	0	4	Decay of natural and manmade deposits
Combined Radium (2003)	N	0.8727 (Avg)	.08 to 1.0	pCi/L	0	5	Erosion of natural deposits
<b>INORGANIC CONTAMINANTS</b>							
Barium (2010)	N	BDL	BDL to 0.06	ppm	2	2	Discharge of drilling waste, discharge from metal refineries; erosion of natural deposits
Copper (2010)	N	BDL	BDL to 0.034	ppm	1.3	AL=1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Fluoride+ Napier Field Area (No Fluoride Added) (2007)	N	0.12 (Avg)	0.11 to 0.13	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Fluoride Dothan Area (Fluoride Added) (2010)	N	1.01 typical concentration	0.94 to 1.07	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen) (2010)	N	0.17 (Avg)	BDL to 4.85	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
<b>VOLATILE ORGANIC CONTAMINANTS (2009)</b>							
TTHMs (2009) [Total trihalomethanes]	N	9.9 (Avg)	2.0 to 25.0	ppb	0	80	By-product of drinking water chlorination
*Chlorine (2010)	N	1.33 (Avg)	1.24 to 1.38	ppm	N/A	4	Added for Disinfection of Drinking Water
<b>SECONDARY MAXIMUM CONTAMINANT LEVELS (2010)</b>							
Aluminum	N	BDL (Avg)	BDL to 0.12	ppm		0.2	
Chloride	N	7.64 (Avg)	4.51 to 18.8	ppm		250	Erosion of natural deposits
Copper	N	BDL (Avg)	BDL to 0.033	ppm		1	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Iron	N	0.067 (Avg)	BDL to 0.274	ppm		0.3	Corrosion of plumbing systems; erosion of natural deposits
Manganese	N	0.018 (Avg)	BDL to 0.41	ppm		0.05	Erosion of natural deposits
Sulfate	N	11.9 (Avg)	9.43 to 18.7	ppm		250	Erosion of natural deposits
Total Dissolved Solids	N	226.7 (Avg)	190 to 320	ppm		500	Constituents in the water

\* 4 mg/L Maximum Residual Disinfectant Level (MRDL) for Chlorine in Distribution System.