

# The WATER REPORT

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## 2015 Drinking Water Quality Report

### Introduction

We are pleased to present the 2015 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 for 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 of 11.5 million gallons of water per day. Therefore, approximately 4.2 billion gallons of water were pumped, prepared and safely distributed during 2015.

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) and updated in 2014. 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 (14) fourteen 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, 2015 to December 31, 2015 or our most recent testing results (prior to the 2015 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. 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 and Compliance

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 MCL's are set by the EPA at very stringent levels and because our water supply meets or is 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.

### 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.

### Additional Information

All of the 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.



## Table of Primary Drinking Water Contaminants

This table provides a quick glance of the primary contaminant and the highest level detected to determine compliance.

CONTAMINANT	MCL	AMOUNT DETECTED	CONTAMINANT	MCL	AMOUNT DETECTED
<b>Microbiological Contaminants (2014)</b>			Dinoseb (ppb)	7	ND
Total Coliform Bacteria	5%	< 1%	Diquat (ppb)	20	ND
Fecal Coliform & E. Coli	0	ND	<sup>1</sup> Dioxin [2, 3, 7, 8-TCDD] (ppq)	30	Exemption
Turbidity (2013)	TT	1.4	Endothall (ppb)	100	ND
<b>Radioactive Contaminants</b>			Endrin (ppb)	2	0.01
Gross Alpha (pCi/L) (2008)	15	1.8	Ethylene dibromide (ppt)	50	ND
Radium 228 (pCi/L) (2010)	5	1.0	Glyphosate (ppb)	700	ND
<b>Inorganic Contaminants (2013)</b>			Heptachlor (ppt)	400	ND
Antimony (ppb)	6	ND	Heptachlor epoxide (ppt)	200	ND
Arsenic (ppb)	10	1	Hexachlorobenzene (ppb)	1	ND
<sup>1</sup> Asbestos (MFL)	7	Exemption	Hexachlorocyclopentadiene (ppb)	50	ND
Barium (ppm)	2	0.23	Lindane (ppt)	200	ND
Beryllium (ppb)	4	ND	Methoxychlor (ppb)	40	ND
Cadmium (ppb)	5	ND	Oxamyl [Vydate] (ppb)	200	ND
(2015) Chlorine (ppm)	4	1.48	PCBs [Polychlorinated biphenyls] (ppt)	500	ND
Chromium (ppb)	100	7	Pentachlorophenol (ppb)	1	ND
Copper (ppm)	AL = 1.3	0.118	Picloram (ppb)	500	ND
Cyanide (ppb)	200	ND	Simazine (ppb)	4	0.34
Flouride (ppm)	4	1.89	Toxaphene (ppb)	3	ND
Lead (ppm)	AL = 0.015	0.003	<b>Volatile Organic Contaminants (2014)</b>		
Mercury (ppb)	2	ND	Benzene (ppb)	5	ND
Nickel (ppm)	0.1	0.002	Carbon Tetrachloride (ppb)	5	ND
Nitrate (ppm)	10	1.82	Mono-Chlorobenzene (ppb)	100	ND
Nitrite (ppm)	1	ND	o-Dichlorobenzene (ppb)	600	ND
Total Nitrite and Nitrate (ppm)	10	1.82	p-Dichlorobenzene (ppb)	75	ND
2015 Nitrate (ppm)	10	1.94	1, 2- Dichloroethane (ppb)	5	ND
Selenium (ppb)	50	ND	1, 1 – Dichloroethylene (ppb)	7	ND
Thallium (ppb)	2	ND	cis-1, 2 Dichloroethylene (ppb)	70	ND
Total Organic Carbon (TOC)	TT	0.6	Trans- 1, 2- Dichloroethylene (ppb)	100	ND
<b>Synthetic Organic Contaminants (2014)</b>			Dichloromethane (ppb)	5	ND
2, 4 – D (ppb)	70	ND	1, 2- Dichloropropane (ppb)	5	ND
2, 4, 5 – TP [Silvex] (ppb)	50	ND	Ethylbenzene (ppb)	700	ND
Alachlor (ppb)	2	ND	Styrene (ppb)	100	ND
Atrazine (ppb)	3	ND	Tetrachloroethylene (ppb)	5	1.2
Benzo(a)pyrene [PAH] (ppt)	200	50	1, 2, 4 Trichlorobenzene (ppb)	70	ND
Carbofuran (ppb)	40	ND	1, 1, 1- Trichloroethane (ppb)	200	ND
Chlordane (ppb)	2	ND	1, 1, 2- Trichloroethane (ppb)	5	ND
Dalapon (ppb)	200	ND	Trichloroethylene (TCE) (ppb)	5	ND
Di-(2-ethylhexyl)adipate (ppb)	400	ND	Toluene (ppm)	1	ND
Di(2-ethylhexyl)phthalate (ppb)	6	5.3	Vinyl Chloride (ppb)	2	ND
Dibromochloro-propane (ppt)	200	ND	Xylenes (ppm)	10	0.0034

<sup>1</sup>. Exemption-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.

### 2015 Disinfectants/Disinfection Byproduct Rule Sampling Requirement (Selected Addresses)

Contaminant	Violation Y/N	Level Detected	Unit Measurement	MCLG	Likely Source of Contamination
TTHM (Total Trihalomethanes)	N	1.1 (Average) Range ND – 4.4	ppb	0	By-product of drinking water chlorination
HAA5 (Total Haloacetic Acids)	N	0.14 (Average) Range ND – 1.4	ppb	0	By-product of drinking water chlorination

## Table of Detected Contaminants (Well Distribution Points)

Contaminant	Violation Y/N	Average Level Detected	Detected Range	Unit	MCLG	MCL	Likely Source of Contamination
<b>Radioactive Contaminants</b>							
Gross Alpha	N	ND	ND – 1.8	pCi/L	0	15	Erosion of natural deposits
Radium 228	N	ND	ND – 1.0	pCi/L	0	5	Erosion of natural deposits
<b>Inorganic Contaminants (2013)</b>							
Arsenic	N	ND	ND – 1	ppb	0	10	Erosion of natural deposits
Barium	N	ND	ND – 0.23	ppm	2	2	Erosion of natural deposits
Chromium	N	0.897	ND – 7.0	ppb	100	100	Erosion of natural deposits
Copper	N	0.009	ND – 0.118	ppm	1.3	AL = 1.3	Corrosion of household plumbing systems; erosion of natural deposits
Fluoride	N	0.64	ND – 1.89	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth
Lead	N	ND	ND – 0.003	ppm	0	AL = 0.015	Corrosion of household plumbing systems; erosion of natural deposits
Nickel	N	ND	ND – 0.002	ppm	0.1	0.1	Erosion of natural deposits
Nitrate	N	ND	ND – 1.82	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrate(2015)	N	ND	ND – 1.94	ppm	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
<b>Organic Contaminants (2014)</b>							
Benzo(a)pyrene [PAH]	N	ND	ND - 50	ppt	0	200	Leaching from linings of water storage tanks and distribution lines.
Di(2-ethylhexyl)phthalate	N	0.2	ND – 5.3	ppb	0	6	Discharge from rubber and chemical factories
Endrin	N	ND	ND – 0.01	ppb	2	2	Residue of banned insecticide
Simazine	N	0.01	ND – 0.34	ppb	4	4	Herbicide Runoff
Tetrachloroethylene	N	ND	ND – 1.2	ppb	0	5	Leaching from PVC pipes
Total Organic Carbon	N	0.36	0.2 – 0.6	ppm	N/A	TT	Naturally present in the environment
Xylene	N	ND	ND – 0.0034	ppm	10	10	Discharge from chemical factories
Chlorine (2015)	N	1.38	1.08 – 1.48	ppm	4	4	Water additive used to control microbes
<b>Unregulated Organic Contaminants (2014)</b>							
Unregulated contaminants are those that don't yet have a drinking water standard set by the USEPA. The purpose of monitoring for these contaminants is to help USEPA decide whether the contaminants should have a standard.							

Contaminant	Average Level Detected	Detected Range	Unit Measurement
Chloroform	0.0008	ND - 0.0069	ppm
Bromodichloromethane	0.0005	ND - 0.0039	ppm
Dibromochloromethane	0.0003	ND - 0.0028	ppm

2015 Special Monitoring Results for Corrosivity Characteristics (Selected Addresses)			
Contaminant	Average Detected	Detected Range	Unit Measurement
pH	7.4	7.3 - 7.6	p/H scale
Total Alkalinity	155	143 - 167	ppm
Carbon Dioxide	5.6	4.0 – 9.0	ppm
Sodium	27.4	17 – 35.9	ppm
Sulfates	13.6	11.8 – 18.2	ppm
Calcium	31.1	23.6 - 40.4	ppm
Magnesium	6.15	5.49 – 7.71	ppm
Hardness	103.5	82 - 124	ppm
Total Dissolved Solids <sup>1</sup>	135.2	91 - 304	ppm
Orthophosphate	0.174	0.08 – 0.45	ppm
Iron	0.18	0.05 – 0.34	ppm

2013 Secondary Maximum Contaminant Levels-Aesthetics				
Contaminant	Average Level Detected	Detected Range	Unit Measurement	MCL
Chloride	8.93	4.67 – 35.7	ppm	250
Copper	0.009	ND – 0.118	ppm	1
Iron	0.093	ND – 0.81	ppm	0.3
Nickel	ND	ND – 0.002	ppm	0.1
Sulfate	11.7	1.2 – 22.5	ppm	250
Total Dissolved Solids	201.2	68 – 368	ppm	500
Zinc	ND	ND – 0.03	ppm	5

1. This value for Total Dissolved Solids is an estimate based on the contribution from ionic species in the sample. While non-ionic species may be negligible, this estimate does not account for those.



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### Unregulated Contaminant Monitoring Rule Phase III (UCMR3) (Well Distribution Points)

As required by the USEPA, monitoring of the following unregulated contaminants was accomplished in 2014 and 2015. Unregulated contaminants are those that don't yet have a drinking water standard set by the USEPA. The purpose of monitoring for these contaminants is to help USEPA decide whether the contaminants should have a standard.

Contaminant	Detection Level	Contaminant	Detection Level
perfluorobutanesulfonic acid (PFBS)	ND	chlorodifluoromethane	ND
perfluoroheptanoic acid (PFHpA)	ND	chloromethane	ND
perfluorohexanesulfonic acid (PFHxS)	ND	1,4 dioxane	ND
perfluorononanoic acid (PFNA)	ND	chromium-6 (ug/L)	0.09
perfluorooctanoic acid (PFOA)	ND	chromium (total) (ug/L)	0.11
perfluorooctanesulfonic Acid (PFOS)	ND	cobalt	ND
1,1-dichloroethane	ND	molybdenum	ND
1,2,3-trichloropropane	ND	strontium (ug/L)	567
1,3 butadiene	ND	vanadium	ND
bromochloromethane	ND	chlorate	ND
bromomethane	ND		

### 2013 Lead and Copper Monitoring (Select Addresses)

Contaminant	Samples Taken	AL	Samples Exceeding AL	90 <sup>th</sup> Percentile
Lead	30	0.015 ppm	0	0.002 ppm
Copper	30	1.3 ppm	0	0.28 ppm

## Lead-Specific Information

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. Dothan Utilities 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 it 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>.

## Closing

Dothan Utilities consistently strives to provide top quality water to every tap and every customer. We ask all our customers to help us protect and conserve our water sources for today and future generations. 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 mail (200 Kilgore Drive; Dothan, Alabama 36301) or by e-mail ([DothanUtilities@dothan.org](mailto: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.

**Mike Schmitz**, Mayor  
**Kevin Dorsey**, Commissioner District 1  
**Amos Newsome**, Commissioner District 2  
**Albert Kirkland**, Commissioner District 3

**John Ferguson**, Commissioner District 4  
**Beth Kenward**, Commissioner District 5  
**David Crutchfield**, Commissioner District 6

### 2013 Special Monitoring Results for Corrosivity Characteristics (Well Distribution Points)

Contaminant	Average Detected	Detected Range	Unit Measurement
pH	7.5	7.1 – 8.3	p/H scale
Total Alkalinity	142	36 – 170	ppm
Carbon Dioxide	9.7	3 – 23.8	ppm
Sodium	32.3	6.32 – 87.8	ppm
Sulfates	11.7	1.2 – 22.5	ppm
Calcium	31.7	4.86 – 55.9	ppm
Magnesium	6.69	1.28 – 10.1	ppm
Hardness	107	22 – 167	ppm
Specific Conductance	321	130 – 454	µmhos

## Terms and Abbreviations

In these tables, you will find many terms and abbreviations with which you may not be familiar. To help you better understand these terms, 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** - 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 that triggers treatment or other requirements which a water system must follow.
- **Treatment Technique (TT)** - A required process intended to reduce the level of a contaminant in drinking water.
- **Maximum Contaminant Level** - 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** - 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.
- **Variations & Exemptions** - ADEM or EPA permission not to meet an MCL or a treatment technique under certain conditions.