

## ADDITIONAL INFORMATION

Source Water Assessments have been performed for the raw water for both of our water treatment plants, and they are available for review by appointment at Shelby County Waters Services located in the Shelby County Administration Building at 200 West College Street, Columbiana, Alabama.

Water at the Talladega/Shelby Water Treatment Plant and the Shelby County South Water Treatment Plant is treated in a manner that is typical of conventional surface water plants. Treatment includes flocculation, sedimentation, filtration, and the addition of copper sulfate, potassium permanganate, hydrogen peroxide, powdered activated carbon, alum-based coagulant, chlorine dioxide (at TSWTP), calcium carbonate, granular activated carbon (GAC) contact, chlorine for disinfection, and fluoride for dental health.

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 the water poses a health risk. More information about contaminants and potential health effects can be obtained by simply calling the EPA's Safe Drinking Water Hotline at (1-800-426-4791). Also, homes equipped with additional treatment processes (i.e. whole house water filters and water softeners) need to follow the manufacturer's recommendation for operation and maintenance, as improper upkeep can affect water quality within the house.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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. The Shelby County Water Services 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>.

## WHERE CAN I GET MORE INFORMATION

Information on water quality in your area is available from several sources, including your local public health department and your water supplier. You can determine whom to contact by checking your water bill or by calling your local town hall. You can also contact your state drinking water program or call EPA's Safe Drinking Water Hotline at 1-800-426-4791. EPA has also prepared a citizen's guide to drinking water called "Water on Tap: A Consumer's Guide to the Nation's Drinking Water."

## TERMINOLOGY

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 can pick up substances resulting from the presence of animal or from human activity.

### Contaminants that may be present in source water include:

- Microbiological contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production mining or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals which are byproducts of industrial processes and petroleum production and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

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# Annual Drinking Water Quality Report

## SHELBY COUNTY WATER SERVICES

We are pleased to present to you this year's Annual Drinking Water Quality Report. We are committed to ensuring the quality of your water. Our constant goal is to provide you with a safe and dependable supply of drinking water. We make efforts to continually improve the water treatment process and protect our water resources. Our water sources in 2017 were **The Talladega/Shelby Water Treatment Plant located near Childersburg and the Shelby County South Water Treatment Plant located near Wilsonville.** The treatment capacity of the Talladega/Shelby Water Treatment Plant is 13.8 MGD and the treatment capacity of the Shelby County South Water Treatment Plant is 8 MGD, for a total capacity of 21.8 million gallons per day. The raw water comes from the Coosa River/Lay Lake.

**We are pleased to report that we met all drinking water standards in 2017.**

If you have any questions about this report or concerning your water service, please contact our Manager of Water Services **Michael Cain, P.E. with Shelby County Water Services at 205-670-6540 or email Michael at [mcain@shelbyal.com](mailto:mcain@shelbyal.com).** We want our customers to be informed about their water service. Our County Commission meetings are held on the second Monday at 8:30 a.m. and fourth Monday at 6:00 p.m. of each month, unless it falls on a holiday. The Commission meetings are held at the Shelby County Administration Building in Columbiana at 200 West College Street. You can also visit our website at [water.shelbyal.com](http://water.shelbyal.com) for more information and to sign up for Alerts sent to your phone or email of activities that may impact your water service.

Shelby County Water Services routinely monitors for constituents in your drinking water according to Federal and State laws. The tables contained within this report illustrate the results of our monitoring from the most recent testing performed in accordance with applicable regulations. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It is important to remember that the presence of these constituents does not necessarily pose a health risk.

Thank you for your attention to this annual report.

Sincerely,  
Alex Dudchock, County Manager

## WHAT DOES THIS INFORMATION MEAN?

Based on a study conducted by the Alabama Department of Environmental Management (ADEM) with the approval of the Environmental Protection Agency (EPA), a statewide waiver for the monitoring of asbestos and dioxin was issued. Thus, monitoring for these contaminants was not required.

The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 1-800-426-4791.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, 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.

In our continuing efforts to maintain a safe and dependable water supply it may be necessary to make improvements in your water system. The costs of these improvements may be reflected in the rate structure. Rate adjustments may be necessary in order to address these improvements.

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 (800-426-4791).

We ask that all our customers help us protect our water sources, which are the heart of our community.



# SHELBY COUNTY WATER SERVICES

## 2017 CONSUMER CONFIDENCE REPORT

## DEFINITIONS

In this table there may be some terms and abbreviations unfamiliar to you. To help you better understand these terms we've 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 (micrograms/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)** - 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)** - 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** - 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.

**Locational Running Annual Average (LRAA)** - the average of monitoring results for a particular location during the previous four calendar quarters.

**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.

**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.

**TEST RESULTS 2017** unless noted

Contaminant	Violation Y/N	Level Detected Talladega/Shelby Water Treatment Plant (TSWTP)	Level Detected Shelby South Water Treatment Plant (SWTP)	Unit Measurement	MCLG	MCL	Likely Source of Contamination
<b>Microbiological Contaminants</b>							
Total Coliform Bacteria	N	2	N/A	Presence Or Absence	0	presence of coliform bacteria in 5% of monthly samples	Naturally present in the environment
<i>E. coli</i>	N	ND	N/A	Presence Or Absence	0	a routine sample and repeat sample are total coliform positive, and one is also fecal coliform or <i>E. coli</i> positive	Human and animal fecal waste
Turbidity	N	0.64	0.28	NTU	N/A	TT	Soil runoff
<b>Radioactive Contaminants (TSWTP Tested in 2017; SWTP Tested in 2012)</b>							
Alpha emitters	N	0.8 +/- 0.6	ND	pCi/L	0	15	Erosion of natural deposits
Combined radium	N	0.5 +/- 0.4	ND	pCi/L	0	5	Erosion of natural deposits
<b>Inorganic Contaminants</b>							
Antimony	N	ND	ND	ppb	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic	N	ND	ND	ppb	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Asbestos	N	N/A	N/A	MFL	7	7	Decay of asbestos cement water mains; erosion of natural deposits
Barium	N	ND	ND	ppb	2000	2000	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium	N	ND	ND	ppb	4	4	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
Cadmium	N	ND	ND	ppb	5	5	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints
Chlorine	N	2.45	2.68	ppm	MRDLG = 4	MRDL = 4	Water additive used to control microbes.
Chlorine dioxide	N	700	N/A	ppb	MRDLG = 800	MRDL = 800	Water additive used to control microbes
Chlorite	N	970	N/A	ppb	800	1000	By-product of drinking water chlorination
Chromium	N	ND	ND	ppb	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Cyanide	N	ND	ND	ppb	200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride	N	0.85	1.17	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Lead	N	ND	ND	ppb	0	AL = 15	Corrosion of household plumbing systems, erosion of natural deposits
Mercury (inorganic)	N	ND	ND	ppb	2	2	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland
Nickel	N	ND	ND	ppm		0.1	
Nitrate (as Nitrogen)	N	440	340	ppb	10000	10000	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen)	N	ND	ND	ppb	1000	1000	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Total Nitrate/Nitrite	N	440	340	ppb	10000	10000	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium	N	ND	ND	ppb	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Sulfate	N	38.6	29.7	ppm		500	Effect salt taste
Thallium	N	ND	ND	ppb	0.5	2	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories
<b>Synthetic Organic Contaminants including Pesticides and Herbicides (TSWTP Tested in 2016, SWTP Tested in 2015)</b>							
2,4-D	N	ND	ND	ppb	70	70	Runoff from herbicide used on row crops
2,4,5-TP (Silvex)	N	ND	ND	ppb	50	50	Residue of banned herbicide
Alachlor	N	ND	ND	ppb	0	2	Runoff from herbicide used on row crops
Atrazine	N	ND	ND	ppb	3	3	Runoff from herbicide used on row crops
Benzo(a)pyrene (PAH)	N	ND	ND	ppt	0	200	Leaching from linings of water storage tanks and distribution lines
Carbofuran	N	ND	ND	ppb	40	40	Leaching of soil fumigant used on rice and alfalfa
Chlordane	N	ND	ND	ppb	0	2	Residue of banned termiticide
Dalapon	N	ND	ND	ppb	200	200	Runoff from herbicide used on rights of way
Di(2-ethylhexyl) adipate	N	ND	ND	ppb	400	400	Discharge from chemical factories

Contaminant	Violation Y/N	Level Detected Talladega/Shelby Water Treatment Plant (TSWTP)	Level Detected Shelby South Water Treatment Plant (SWTP)	Unit Measurement	MCLG	MCL	Likely Source of Contamination
Di(2-ethylhexyl) phthalate	N	ND	ND	ppb	0	6	Discharge from rubber and chemical factories
Dibromochloropropane	N	ND	ND	ppt	0	200	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
Dinoseb	N	ND	ND	ppb	7	7	Runoff from herbicide used on soybeans and vegetables
Diquat	N	ND	ND	ppb	20	20	Runoff from herbicide use
Endothal	N	ND	ND	ppb	100	100	Runoff from herbicide use
Endrin	N	ND	ND	ppb	2	2	Residue of banned insecticide
Ethylene dibromide	N	ND	ND	ppt	0	50	Discharge from petroleum refineries
Glyphosate	N	ND	ND	ppb	700	700	Runoff from herbicide use
Heptachlor	N	ND	ND	ppt	0	400	Residue of banned termiticide
Heptachlor epoxide	N	ND	ND	ppt	0	200	Breakdown of heptachlor
Hexachlorobenzene	N	ND	ND	ppb	0	1	Discharge from metal refineries and agricultural chemical factories
Hexachlorocyclo-pentadiene	N	ND	ND	ppb	50	50	Discharge from chemical factories
Lindane	N	ND	ND	ppt	200	200	Runoff/leaching from insecticide used on cattle, lumber, gardens
Methoxychlor	N	ND	ND	ppb	40	40	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
Oxamyl [Vydate]	N	ND	ND	ppb	200	200	Runoff/leaching from insecticide used on apples, potatoes and tomatoes
PCBs [Polychlorinated biphenyls]	N	ND	ND	ppt	0	500	Runoff from landfills; discharge of waste chemicals
Pentachlorophenol	N	ND	ND	ppb	0	1	Discharge from wood preserving factories
Picloram	N	ND	ND	ppb	500	500	Herbicide runoff
Simazine	N	ND	ND	ppb	4	4	Herbicide runoff
Toxaphene	N	ND	ND	ppb	0	3	Runoff/leaching from insecticide used on cotton and cattle
<b>Volatile Organic Contaminants (TSWTP tested in 2016, SWTP tested in 2017; TOC tested in 2017 for both Plants)</b>							
Benzene	N	ND	ND	ppb	0	5	Discharge from factories; leaching from gas storage tanks and landfills
Carbon tetrachloride	N	ND	ND	ppb	0	5	Discharge from chemical plants and other industrial activities
Chlorobenzene	N	ND	ND	ppb	100	100	Discharge from chemical and agricultural chemical factories
o-Dichlorobenzene (1,2-Dichlorobenzene)	N	ND	ND	ppb	600	600	Discharge from industrial chemical factories
p-Dichlorobenzene (1,4-Dichlorobenzene)	N	ND	ND	ppb	75	75	Discharge from industrial chemical factories
1,2 - Dichloroethane	N	ND	ND	ppb	0	5	Discharge from industrial chemical factories
1,1 - Dichloroethylene	N	ND	ND	ppb	7	7	Discharge from industrial chemical factories
cis-1,2-Dichloroethylene	N	ND	ND	ppb	70	70	Discharge from industrial chemical factories
trans - 1,2-Dichloroethylene	N	ND	ND	ppb	100	100	Discharge from industrial chemical factories
Dichloromethane (Methylene Chloride)	N	ND	ND	ppb	0	5	Discharge from pharmaceutical and chemical factories
1,2-Dichloropropane	N	ND	ND	ppb	0	5	Discharge from industrial chemical factories
Ethylbenzene	N	ND	ND	ppb	700	700	Discharge from petroleum refineries
Styrene	N	ND	ND	ppb	100	100	Discharge from rubber and plastic factories; leaching from landfills
Tetrachloroethylene	N	ND	ND	ppb	0	5	Leaching from PVC pipes; discharge from factories and dry cleaners
1,2,4 - Trichlorobenzene	N	ND	ND	ppb	70	70	Discharge from textile-finishing factories
1,1,1 - Trichloroethane	N	ND	ND	ppb	200	200	Discharge from metal degreasing sites and other factories
1,1,2 - Trichloroethane	N	ND	ND	ppb	3	5	Discharge from industrial chemical factories
Trichloroethylene	N	ND	ND	ppb	0	5	Discharge from metal degreasing sites and other factories
Toluene	N	ND	ND	ppm	1	1	Discharge from petroleum factories
Vinyl Chloride	N	ND	ND	ppb	0	2	Leaching from PVC piping; discharge from plastics factories
Xylenes	N	ND	ND	ppb	10000	10000	Discharge from petroleum factories discharge from chemical factories
TOC (Total Organic Carbon)	N	2.30	1.20	ppm	N/A	TT	Naturally present in the environment

<b>Volatile Organic Contaminants (Disinfection-by-Products) Results for System</b>						
Contaminant	Violation Y/N	Stage 2 Sites	Unit Measurement	MCLG	MCL	Likely Source of Contamination
TTHMs (Total Trihalomethanes) LRAA	N	55.58	ppb	N/A	80	By-product of drinking water chlorination
HAA5 (Haloacetic Acids) LRAA	N	30.70	ppb	N/A	60	By-product of drinking water chlorination

**Detected Contaminants Table**

Contaminant	Violation Y/N	Level Detected Talladega/Shelby Water Treatment Plant (TSWTP)	Level Detected Shelby South Water Treatment Plant (SWTP)	Unit Measurement	MCLG	MCL	Likely Source of contamination
<b>Microbiological Contaminants</b>							
Total Coliform Bacteria	N	2	N/A	Presence Or Absence	0	presence of coliform bacteria in ≤5% of monthly samples	Naturally present in the environment
Turbidity	N	0.64	0.28	NTU	N/A	TT	Soil runoff
<b>Radioactive Contaminants</b>							
Alpha emitters (Gross Alpha)	N	0.8 +/- 0.6	ND	pCi/L	0	15	Erosion of natural deposits
Radium-228	N	0.5 +/- 0.4	ND	pCi/L	0	5	Erosion of natural deposits
<b>Inorganic Contaminants</b>							
Chlorine	N	2.45	2.68	ppm	MRDLG = 4	MRDL = 4	Water additive used to control microbes
Chlorine Dioxide	N	700	N/A	ppb	MRDLG = 800	MRDL = 800	Water additive used to control microbes
Chlorite	N	970	N/A	ppb	800	1000	By-product of drinking water chlorination
Fluoride	N	0.85	1.17	ppm	4	4	Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (as Nitrogen)	N	440	340	ppb	10000	10000	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Total Nitrate/Nitrite	N	440	340	ppb	1000	1000	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
<b>Secondary Contaminants</b>							
Chloride	N	11.4	8.61	ppm		250	Effect salty taste
Magnesium, as Mg	N	5.61	4.98	ppm			Effect black to brown color; black staining; bitter metallic taste
pH	N	6.57/7.60	6.50/7.31				
Sodium, as Na	N	8.92	5.31	ppm			
Sulfate	N	38.6	29.7	ppm		250	Effect salt taste
Total Dissolved Solids (TSS)	N	112	104	ppm		500	Effect hardness, deposits, colored water, staining, salty taste
<b>Volatile Organic Contaminants</b>							
TOC (Total Organic Carbon)	N	2.30	1.20	ppm	N/A	TT	Naturally present in the environment
<b>Volatile Organic Contaminants (Disinfection-by-Products) Results for System</b>							
Contaminant	Violation Y/N	Stage 2 Sites	Unit Measurement	MCLG	MCL	Likely Source of Contamination	
TTHMs (Total Trihalomethanes) Highest LRAA	N	55.58	ppb	N/A	80	By-product of drinking water chlorination	
Haloacetic Acids (HAA5) Highest LRAA	N	30.70	ppb	N/A	60	By-product of drinking water chlorination	
TTHMs (Total Trihalomethanes) Range of LRAA results	N	7.69 - 55.58	ppb	N/A	80	By-product of drinking water chlorination	
Haloacetic Acids (HAA5) Range of LRAA results	N	1.86 - 30.70	ppb	N/A	60	By-product of drinking water chlorination	

- Water sampling and Consumer Confidence Report information for 2017 Consumer Confidence Report – 2017 Water Data Shelby County Water System.
- In accordance with regulations, lead and copper samples were taken from the Shelby County Water Services' distribution system in 2017. The 90th percentile values were ND for lead and 0.092 ppm for copper. All samples were below the action level.
- Shelby County Water System took 483 bacterial samples in the year with zero positive samples for E.coli and Total Coliform.
- Residual Chlorine in the distribution system ranged from 0.3 mg/L to 2.20 mg/L.
- Chlorite results from system testing ranged from 120 ppb to 782 ppb.