

**2014 Annual Water Quality Report  
(Monitoring Performed January through December 2013)**

**GREENVILLE WATER WORKS & SEWER BOARD**  
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We are pleased to present to you this year's Annual Water Quality Report, which is designed to inform you about the quality water we deliver to you every day. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water.

|                               |  |                          |
|-------------------------------|--|--------------------------|
| <b>Number of Customers</b>    | Approximately 3150                                       |                          |
| <b>Water Sources</b>          | 6 groundwater wells producing from Ripley Formation      |                          |
|                               | Purchased groundwater from Butler County Water Authority |                          |
| <b>Water Treatment</b>        | Chlorine for disinfection                                |                          |
| <b>Storage Capacity</b>       | 3 tanks with a capacity of 1.75 million gallons          |                          |
| <b>Additional Connections</b> | Sell water to Butler County Water Authority              |                          |
| <b>Board Members</b>          | Joby Norman, Chairman                                    | Lionel Ed Rainey, Member |
|                               | Bill Lewis, Vice Chairman                                | James Reeves, Member     |
|                               | James Lewis, Member                                      |                          |
| <b>Superintendent</b>         | Kristopher Findley                                       |                          |

**Source Water Assessment**

In compliance with the Alabama Department of Environmental Management (ADEM), **Greenville Water Works & Sewer Board** has developed a Source Water Assessment plan that will assist in protecting our water sources. This plan provides additional information such as potential sources of contamination. It includes a susceptibility analysis, which classifies potential contaminants as high, moderate, or non-susceptible (low) to contaminating the water source. All of the potential contaminants sited in our study area were ranked as low. The assessment has been performed, public notification has been completed, and the plan has been approved by ADEM. A copy of the report is available in our office for review, or you may purchase a copy upon request for a nominal reproduction fee. Please help us make this effort worthwhile by protecting our source water. Carefully follow instructions on pesticides and herbicides you use for your lawn and garden, and properly dispose of household chemicals, paints and waste oil.

**Monitoring Schedule**

**Greenville Water Works & Sewer Board** *routinely* monitors for constituents in your drinking water according to Federal and State laws. This report contains results from the most recent monitoring which was performed in accordance with the regulatory schedule.

| <b>Constituents Monitored</b>  | <b>Greenville</b> | <b>Butler Co</b> |
|--|-------------------|------------------|
| Inorganic Contaminants   | 2013              | 2013             |
| Lead/Copper  | 2011              | 2013             |
| Microbiological Contaminants   | current           | current          |
| Nitrates   | 2013              | 2013             |
| Radioactive Contaminants   | 2011              | 2010             |
| Synthetic Organic Contaminants (including herbicides and pesticides) | 2013              | 2013             |
| Volatile Organic Contaminants  | 2013              | 2013             |
| Disinfection By-products   | 2013              | 2013             |
| Unregulated Contaminant Monitoring Rule (UCMR2) contaminants         | --                | 2010             |

## General Information

All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. MCL's, defined in a List of Definitions in this report, 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.

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 material, and it can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- *Microbial 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 storm water run-off, 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, storm water run-off, and residential uses.

- *Organic chemical contaminants*, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.

- *Radioactive contaminants*, which can be naturally occurring or be the result of oil and gas production and mining activities.

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 (FDA) regulations establish limits for contaminants in bottled water.

Based on a study conducted by ADEM 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.

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. People at risk 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).

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. Your water system 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>.

## Questions?

If you have any questions about this report or concerning your water utility, please contact **Kristopher Findley** at 334-382-6663. We want our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on **the fourth Tuesday of every month at 11:00 a.m. at City Hall, 119 East Commerce Street.**

*More information about contaminants to drinking water and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (1-800-426-4791).*

As you can see by the table below, our system had no violations. We have learned through our monitoring and testing that some constituents have been detected. We are pleased to report that our drinking water meets federal and state requirements.

| TABLE OF DETECTED DRINKING WATER CONTAMINANTS |           |                       |                       |       |      |        |  |
|---|-----------|-----------------------|-----------------------|-------|------|--------|--|
| Contaminants                                  | Violation | Greenville            | Butler Co             | Unit  | MCLG | MCL    | Likely Source of Contamination   |
|   | Y/N       |                       |                       | Msmt  |      |        |  |
| Alpha emitters                                | NO        | --                    | 1.7 ± 1.6             | PCi/l | 0    | 15     | Erosion of natural deposits  |
| Copper  | NO        | 0.101 *<br>0 > AL     | --                    | ppm   | 1.3  | AL=1.3 | Corrosion of plumbing; erosion of natural deposits; leaching from wood preservatives                 |
| Fluoride                                      | NO        | 0.40-0.71             | 0.40-0.65             | ppm   | 4    | 4      | Erosion of natural deposits; water additive which promotes strong teeth; discharge from factories    |
| Lead  | NO        | ND **<br>1 > AL       | --                    | ppb   | 0    | AL=15  | Corrosion of household plumbing systems, erosion of natural deposits                                 |
| Nitrate (as Nitrogen)                         | NO        | ND-0.30               | 0.20-0.22             | ppm   | 10   | 10     | Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits          |
| TTHM [Total trihalomethanes]                  | NO        | RAA 31.4<br>3.47-52.7 | RAA 36.3<br>12.8-78.7 | ppb   | 0    | 80     | By-product of drinking water chlorination  |
| HAA5 [Total haloacetic acids]                 | NO        | RAA 4.88<br>2.18-9.61 | RAA 4.41<br>2.28-13.2 | ppb   | 0    | 60     | By-product of drinking water chlorination  |
| <b>Unregulated Contaminants</b>               |           |                       |                       |       |      |        |  |
| Bromodichloromethane                          | NO        | ND-0.55               | ND                    | ppb   | n/a  | n/a    | Naturally occurring in the environment or from runoff  |
| Chlorodibromomethane                          | NO        | ND-2.57               | ND-1.09               | ppb   | n/a  | n/a    | Naturally occurring in the environment or from runoff  |
| Bromoform                                     | NO        | ND-31.8               | ND-3.63               | ppb   | n/a  | n/a    | Naturally occurring in the environment or from runoff  |
| <b>Secondary Contaminants</b>                 |           |                       |                       |       |      |        |  |
| Chloride                                      | NO        | 55.6-84.4             | 53.1-89.0             | ppm   | n/a  | 250    | Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff |
| Hardness                                      | NO        | 4.31-8.86             | 3.37-9.20             | ppm   | n/a  |        | Naturally occurring in the environment or as a result of treatment with water additives              |
| pH  | NO        | 8.27-8.84             | 8.20-8.50             | S.U.  | n/a  | n/a    | Naturally occurring in the environment or as a result of treatment with water additives              |
| Sulfate                                       | NO        | 27.5-45.5             | 30.4-37.8             | ppm   | n/a  | 250    | Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff |
| Total Dissolved Solids                        | NO        | 404-496               | 412-488               | ppm   | n/a  | 500    | Naturally occurring in the environment or as a result of industrial discharge or agricultural runoff |

\* Figure shown is 90<sup>th</sup> percentile and # of sites above action level (1.3 ppm) = 0

\*\* Figure shown is 90<sup>th</sup> percentile and # of sites above Action Level (15.0 ppb) = 1

#### Abbreviations and Definitions

**AL** (Action Level): the concentration of a contaminant that, if exceeded, triggers treatment or other requirements.

**CA** (Coliform Absent): Laboratory analysis indicates that the contaminant is not present.

**DBP** (Disinfection Byproducts): formed when disinfectants used in water treatment plants react with bromide and/or natural organic matter (i.e., decaying vegetation) present in the source water.

**IDSE** (Initial Distribution System Evaluation): a study conducted by water systems to identify distribution system locations with high concentrations of TTHM and HAA5.

**LRAA** (Locational Running Annual Average): yearly average of all the DPB results at each specific sampling site

**MCL** (Maximum Contaminant Level): 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): 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): the highest level of a disinfectant allowed in drinking water

**mrem/yr** (Millirems per year): measure of radiation absorbed by the body.

**n/a** (not applicable)

**ND** (Non-Detect): laboratory analysis indicates that the constituent is not present above detection limits of lab equipment.

**NR** (not reported): laboratory analysis, usually Secondary Contaminants, not reported by water system. EPA recommends secondary standards to water systems but does not require systems to comply.

**NTU** (Nephelometric Turbidity Unit): a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

**ppb** (parts per billion) or **µg/l** (micrograms per liter): one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

**ppm** (parts per million) or **mg/l** (milligrams per liter): one part per million corresponds to one minute in two years or a single penny in \$10,000.

**ppq** (parts per quadrillion) or **picograms/l** (Picograms per liter): one part per quadrillion corresponds to one minute in 2,000,000,000 years, or a single penny in \$10,000,000,000.

**ppt** (parts per trillion) or **nanograms/l** (nanograms per liter): one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

**pCi/L** (Picocuries per liter): picocuries per liter is a measure of the radioactivity in water.

**RAA** (running annual average): average of DBP results in the water system

**S.U.** (Standard Units): pH of water measures the water's balances of acids and bases. Water with less than 6.5 could be acidic, soft, and corrosive. A pH greater than 8.5 could indicate that the water is hard.

**TT** (Treatment Technique): a required process intended to reduce the level of a contaminant in drinking water.

**V&E** (Variances & Exemptions): State or EPA permission not to meet an MCL or a treatment technique under certain conditions.

At the end of this report is a *Table of Primary Drinking Water Contaminants*. These contaminants were *not* detected in your water unless they appear in the *Table of Detected Contaminants*.

| STANDARD LIST OF PRIMARY DRINKING WATER CONTAMINANTS |                      |                         |   |     |              |
|--|----------------------|-------------------------|---|-----|--------------|
| Contaminant  | MCL                  | Unit of Msmt            | Contaminant                             | MC  | Unit of Msmt |
| <b>Bacteriological Contaminants</b>                  |                      |                         | trans-1,2-Dichloroethylene              | 100 | ppb          |
| Total Coliform Bacteria                              | <5%                  | present or absent       | Dichloromethane                         | 5   | ppb          |
| Fecal Coliform and E. coli                           | 0                    | present or absent       | 1,2-Dichloropropane                     | 5   | ppb          |
| Turbidity  | TT                   | NTU                     | Di (2-ethylhexyl)adipate                | 400 | ppb          |
| Cryptosporidium                                      | TT                   | TT                      | Di (2-ethylhexyl)phthalate              | 6   | ppb          |
| <b>Radiological Contaminants</b>                     |                      |                         | Dinoseb                                 | 7   | ppb          |
| Beta/photon emitters                                 | 4                    | mrem/yr                 | Dioxin [2,3,7,8-TCDD]                   | 30  | Picograms/l  |
| Alpha emitters                                       | 15                   | pCi/l                   | Diquat                                  | 20  | ppb          |
| Combined radium                                      | 5                    | pCi/l                   | Endothall                               | 100 | ppb          |
| Uranium  | 30                   | pCi/l                   | Endrin                                  | 2   | ppb          |
| <b>Inorganic Chemicals</b>                           |                      |                         | Epichlorohydrin                         | TT  |              |
| Antimony   | 6                    | ppb                     | Ethylbenzene                            | 700 | ppb          |
| Arsenic  | 10                   | ppb                     | Ethylene dibromide                      | 50  | ppt          |
| Asbestos   | 7                    | MFL                     | Glyphosate                              | 700 | ppb          |
| Barium   | 2                    | ppm                     | Heptachlor                              | 400 | Nanograms/l  |
| Beryllium  | 4                    | ppb                     | Heptachlor epoxide                      | 200 | Nanograms/l  |
| Cadmium  | 5                    | ppb                     | Hexachlorobenzene                       | 1   | ppb          |
| Chromium   | 100                  | ppb                     | Hexachlorocyclopentadiene               | 50  | ppb          |
| Copper   | AL=1.3               | ppm                     | Lindane                                 | 200 | Nanograms/l  |
| Cyanide  | 200                  | ppb                     | Methoxychlor                            | 40  | ppb          |
| Fluoride   | 4                    | ppm                     | Oxamyl [Vydate]                         | 200 | ppb          |
| Lead   | AL=15                | ppb                     | Polychlorinated biphenyls (PCBs)        | 0.5 | ppb          |
| Mercury  | 2                    | ppb                     | Pentachlorophenol                       | 1   | ppb          |
| Nitrate  | 10                   | ppm                     | Picloram                                | 500 | ppb          |
| Nitrite  | 1                    | ppm                     | Simazine                                | 4   | ppb          |
| Selenium   | .05                  | ppm                     | Styrene                                 | 100 | ppb          |
| Thallium   | .002                 | ppm                     | Tetrachloroethylene                     | 5   | ppb          |
| <b>Organic Contaminants</b>                          |                      |                         | Toluene                                 | 1   | ppm          |
| 2,4-D  | 70                   | ppb                     | Toxaphene                               | 3   | ppb          |
| Acrylamide   | TT                   |                         | 2,4,5-TP(Silvex)                        | 50  | ppb          |
| Alachlor   | 2                    | ppb                     | 1,2,4-Trichlorobenzene                  | .07 | ppm          |
| Benzene  | 5                    | ppb                     | 1,1,1-Trichloroethane                   | 200 | ppb          |
| Benzo(a)pyrene [PAHs]                                | 200                  | ppt                     | 1,1,2-Trichloroethane                   | 5   | ppb          |
| Carbofuran   | 40                   | ppb                     | Trichloroethylene                       | 5   | ppb          |
| Carbon tetrachloride                                 | 5                    | ppb                     | Vinyl Chloride                          | 2   | ppb          |
| Chlordane  | 2                    | ppb                     | Xylenes                                 | 10  | ppm          |
| Chlorobenzene  | 100                  | ppb                     | Disinfectants & Disinfection Byproducts |     |              |
| Dalapon  | 200                  | ppb                     | Chlorine                                | 4   | ppm          |
| Dibromochloropropane                                 | 200                  | ppt                     | Chlorine Dioxide                        | 800 | ppb          |
| o-Dichlorobenzene                                    | 600                  | ppb                     | Chloramines                             | 4   | ppm          |
| p-Dichlorobenzene                                    | 75                   | ppb                     | Bromate                                 | 10  | ppb          |
| 1,2-Dichloroethane                                   | 5                    | ppb                     | Chlorite                                | 1   | ppm          |
| 1,1-Dichloroethylene                                 | 7                    | ppb                     | HAA5 [Total haloacetic acids]           | 60  | ppb          |
| cis-1,2-Dichloroethylene                             | 70                   | ppb                     | TTHM [Total trihalomethanes]            | 80  | ppb          |
| <b>UNREGULATED CONTAMINANTS</b>                      |                      |                         |   |     |              |
| 1,1 – Dichloropropene                                | Aldicarb             | Chloroform              | Metolachlor                             |     |              |
| 1,1,1,2-Tetrachloroethane                            | Aldicarb Sulfone     | Chloromethane           | Metribuzin                              |     |              |
| 1,1,2,2-Tetrachloroethane                            | Aldicarb Sulfoxide   | Dibromochloromethane    | N - Butylbenzene                        |     |              |
| 1,1-Dichloroethane                                   | Aldrin               | Dibromomethane          | Naphthalene                             |     |              |
| 1,2,3 - Trichlorobenzene                             | Bromobenzene         | Dicamba                 | N-Propylbenzene                         |     |              |
| 1,2,3 - Trichloropropane                             | Bromochloromethane   | Dichlorodifluoromethane | O-Chlorotoluene                         |     |              |
| 1,2,4 - Trimethylbenzene                             | Bromodichloromethane | Dieldrin                | P-Chlorotoluene                         |     |              |
| 1,3 – Dichloropropane                                | Bromoform            | Hexachlorobutadiene     | P-Isopropyltoluene                      |     |              |
| 1,3 – Dichloropropene                                | Bromomethane         | Isopropylbenzene        | Propachlor                              |     |              |
| 1,3,5 - Trimethylbenzene                             | Butachlor            | M-Dichlorobenzene       | Sec - Butylbenzene                      |     |              |
| 2,2 – Dichloropropane                                | Carbaryl             | Methomyl                | Tert - Butylbenzene                     |     |              |
| 3-Hydroxycarbofuran                                  | Chloroethane         | MTBE                    | Trichlorofluoromethane                  |     |              |