



**SJWD Water District** – (System # 4220006)

## **Water Quality Report 2016**

This Water Quality Report is for the calendar year 2016. The information in this report was assembled from various sources such as:

1. the South Carolina Department of Health and Environmental Control (SCDHEC) laboratory results,
2. our own laboratory data, and
3. Commercial laboratory results.

**On behalf of the Commissioners of the SJWD Water District, I am happy to provide you, our customer, with the following information about your drinking water. During 2016, the treated water leaving the treatment plants met all the USEPA and SCDHEC regulations.**

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### **About SJWD Water District:**

The South Carolina General Assembly passed legislation creating the SJWD Water District, a Special Purpose District (SPD), in 1958 for the purpose of providing drinking water to Western Spartanburg County. The legislation established the District's boundary and provided the authority to sell bonds.

Over the years the District has grown. Today its service area covers approximately 168 square miles in Western Spartanburg County. The service area stretches from Highway 417 in the South, to Highway 11 in the North, and from I-26 in the East, to the Greenville County line in the West. SJWD Water District serves approximately **23,992** accounts and a service area population of approximately 55,000 people.

### **SJWD Water District Mission:**

Our mission is to provide excellent quality water and service to our current and future consumers while continuously improving cost effectiveness. We accomplish this through the efforts of our employees, by developing them to their full potential, through sound business practices and through timely application of emerging technologies.

### **What is the source of my water?**

SJWD's water sources are the Middle Tyger River (Lyman Lake) and the North Tyger River (Lake Cooley and North Tyger Reservoir). All water is treated at the SJWD water treatment facilities on Groce Road in Lyman, SC. The source of our water originates in the northern parts of Greenville and Spartanburg counties. There is very little industrial and commercial contamination in this area. Since many of you live in or use this area, we would like to encourage you to do your part to help protect these precious water supplies. We would be pleased to share with you ways to help better protect our watersheds.

Our Source Water Assessment Plan is available for your review at [www.scdhec.gov/water/html/srcwtr.html](http://www.scdhec.gov/water/html/srcwtr.html). A copy of the plan is available at our office.

**03050107-040**  
*(Middle Tyger River)*

**General Description**

Watershed 03050107-040 is located in Greenville and Spartanburg Counties and consists primarily of the *Middle Tyger River* and its tributaries. The watershed occupies 54,597 acres of the Piedmont region of South Carolina. The predominant soil types consist of an association of the Cecil series. The erodibility of the soil (K) averages 0.28, and the slope of the terrain averages 8%, with a range of 2-15%. Land use/land cover in the watershed includes: 63.2% forested land, 22.0% agricultural land, 11.0% urban land, 1.9% scrub/shrub land, 1.1% water, and 0.8% barren land. The Middle Tyger River accepts drainage from Campbell Creek, Beaverdam Creek (Barnes Creek), and Spencer Creek before flowing into Lyman Lake (Meadow Creek). Downstream of Lyman Lake, another Beaverdam Creek (Foyster Creek, Thompson Branch, Berrys Millpond, Silver Lake) flows into the river followed by Twin Lakes much further downstream. There are numerous ponds and lakes (totaling 578.7 acres) and a total of 97.2 stream miles in this watershed, all classified FW.

**03050107-02**  
*(North Tyger River)*

**General Description**

Watershed 03050107-02 (formerly 03050107-020, 030) is located in Spartanburg and Union Counties and consists primarily of the *North Tyger River* and its tributaries. The watershed occupies 56,172 acres of the Piedmont region of South Carolina. Land use/land cover in the watershed includes: 43.7% forested land, 31.2% agricultural land, 18.9% urban land, 2.8% forested wetland, 1.4% barren land, 1.3% water, and 0.7% scrub/shrub land.

Jordan Creek, which was impounded to create Lake Cooley, drains into the North Tyger River along with several unnamed tributaries. Frey Creek (Grays Creek) drains into the river next, followed by Jimmies Creek, Cub Branch, Ranson Creek, Tim Creek (Montgomery Pond), and Stillhouse Branch. Further downstream the river flows through Ott Shoals and accepts drainage from Wards Creek (Tanyard Branch), Tin Roof Branch, Johnson Branch (Big Branch), and Thomas Branch. There are a total of 113.5 stream miles and 248.6 acres of lake waters in this watershed, all classified FW.

**How is my water treated?**

The SJWD Water District treatment facility uses USEPA and SCDHEC approved methodologies for making sure your water meets all drinking water requirements. The water is chemically treated to remove solids and other contaminants and to kill disease-producing organisms. The water is then filtered to further enhance the clarity and to remove small particles and microbials such as Giardia and Cryptosporidium. Additional chemicals are added to stabilize the water and inhibit corrosion in the pipeline distribution systems. During 2012, SJWD completed the construction of the new membrane filtration facility. This facility started producing water in October 2012. Membrane filtration enhances the treatment process by providing a positive barrier for contaminants that may be in the untreated water.

**What if I Have Questions About My Water or This Report?**

If you would like more information about your water quality, the SJWD treatment processes, or information in this report, you may contact us by calling the SJWD treatment facility at 864-949-2831.

**How Can I Be Involved?**

The Commissioners of SJWD Water District hold monthly meetings at the SJWD administration office (307 Spartanburg Highway, Wellford, SC). These meetings are open to the public and an agenda is posted in the lobby of our administration office. Please contact us in advance if you wish to attend the meeting. For more information, please contact us at 864-439-4423.

Thank you for the interest you have in your water system.

Sincerely,

Mike Caston, Chief Executive Officer



**SJWD Water District (System #4220006)  
Water Quality Report  
2016**

**Regulated Contaminants:**

SJWD Water District (System #SC4220006) complied with the monitoring requirements of USEPA and SCDHEC during 2016. Critical contaminants are analyzed on a daily or more frequent basis by the SJWD certified lab. The contaminants listed below were detected. The remaining contaminants were not detected during this sampling period. This sampling period covers 2016.

**Inorganic Contaminants**

Contaminant (units)	MCL	MCLG	SJWD Avg.	Range	HDL	Violation	Source	Year of analysis
Turbidity (NTU) Conventional plant	TT	N/A	0.05	0.04-0.08	0.08	N	Soil runoff	2016
Membrane plant see note <sup>1</sup>			0.05	0.04-0.05	0.05	N		
Fluoride (ppm) SJWD results	4.0	4.0	0.00	0.00-0.00	0.00	N	Added for dental health, erosion of natural deposits, runoff from fertilizer factories	2016
SCDHEC results			0.00	0.00-0.00	0.00			
Nitrate (ppm)	10	10	0.29	0.29-0.29	0.29	N	Naturally occurring and fertilizer runoff	2016
Chlorine (ppm) For SJWD System	4	4	0.72	0.07-1.42	1.42	N	Water additive to control microbes	2016
<b>Radioactive Contaminants (pCi/l)</b>	<b>MCL</b>	<b>MCLG</b>	<b>SJWD Avg.</b>	<b>Range</b>	<b>HDL</b>	<b>Violation</b>	<b>Source</b>	<b>Year of Analysis</b>
Gross Alpha Excluding radon and uranium	15	0	10	0-10.3	10	N	Erosion of natural deposits	2013

<sup>1</sup>Turbidity is a measurement taken to determine the clarity of the water. The EPA standards for turbidity of filtered water may not exceed 0.3 NTU in more than 5% of all the measurements taken, and must never exceed 1 NTU. Turbidity measurements are monitored continually on each filter effluent and recorded every fifteen minutes. SJWD was in compliance with this requirement in 2013. In addition, SJWD is a member of the American Water Works Association’s Partnership for Safe Water Program. This program sets a more stringent requirement for its members of 0.10 NTU turbidity 95% of the time. **SJWD met this goal in 2016.**

**Lead and Copper:**

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. Infants and young children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure. It is advisable to flush your cold water tap for up to 2 minutes before using for drinking or cooking. Detailed information concerning lead and copper health effects can be obtained by contacting SJWD. Additional information is available from the Safe Drinking Water Hotline (800-426-4791). **SJWD was in compliance with this requirement during 2015.**

Contaminant (units)	Action Level	90 <sup>th</sup> percentile	Number of sites exceeding Action Level	Range	Violation	Source	Year
Copper (ppm) For SJWD System	1.3	0.145	0	0.004-0.227	N	Corrosion of household plumbing systems	2015
Lead (ppb) For SJWD System	15	0	1	ND-21	N	Corrosion of household plumbing systems	2015

**Microbiological Samples:**

Total Coliform: Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially-harmful, bacteria may be present.

Fecal coliform/E.Coli: Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.

SJWD analyzed 835 samples from the distribution system and a sample each day from the treatment plant's finished water for total coliform bacteria. Of the 835 samples from the distribution system, 835 (100%) were absent of total coliform organisms. The EPA standard for total coliforms is 95% of all samples collected must be absent of total coliforms. **SJWD was in compliance with this requirement during 2016.**

Contaminant	MCL goal	MCL	Highest # (P)	Violation	Source	Year
Total Coliform	0	5% of monthly samples (P)	0	N	Naturally present in the environment	2016

**Organic Contaminants:**

**Total Organic Carbon:** Total organic carbon (TOC) has no health effects. However, total organic carbon (TOC) provides a medium for the formation of disinfection by-products. These by-products include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these by-products in excess of the MCL may lead to adverse health effects, liver, or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer. The listed values for TTHM's and HAA's are based on the running annual average of eight representative sample sites in the SJWD distribution systems that are sampled quarterly by SCDHEC. The range represents the minimum and maximum of all the individual samples collected during the year. In addition to these values, SJWD collects and analyzes samples from these 8 sites on a monthly basis. Results from all these extra samples were below the MCL. **SJWD was in compliance with this requirement during 2016.**

Contaminant (units)	MCL	SJWD RAA	Range	Violation	Source	Year of analysis
Total Trihalomethanes (ppb)	80	36	13.8-54.2	N	Byproducts of Disinfection	2016
Haloacetic Acids (ppb)	60	26	14.8-32.9	N	Byproducts of Disinfection	2016
Total Organic Carbon (% removed)	TT	40%	24.8-69.6%	N	Naturally occurring and runoff	2016

*SJWD is required to remove 35% of the source water TOC through the treatment process if the source water or treated water TOC is greater than 2 mg./l. SJWD Water District was in compliance with this requirement during 2016.*

**Unregulated Parameters:**

SJWD routinely monitors for certain water quality parameters that are not regulated. The purpose of monitoring these parameters is to help the USEPA decide whether the contaminants should have a standard. As our customers, you have a right to know that the data is available for the contaminants. If you are interested in examining the results, please contact Tommy Staton at 864-949-2828 or tstaton@sjwd.com

Contaminant (units)	MCL	MCLG	SJWD	Range	HDL	Source	Year of analysis
pH (Std units)	N/A	N/A	6.97	6.73-7.26	7.26	Naturally occurring and added for corrosion inhibition	2016
Phosphate (ppm PO4)	N/A	N/A	0.67	0.15-0.98	0.98	Added for corrosion inhibition	2016
Hardness (mg./l. as CaCO3)	N/A	N/A	12.6	6-24	24	Naturally occurring and added for corrosion inhibition	2016
Iron (mg./l Fe)	1.3	N/A	0.008	ND-0.05	0.05	Erosion of natural deposits	2016
Manganese (mg./l.)	0.05	N/A	0.007	ND-0.029	0.029	Erosion of natural deposits	2016

The abbreviations used above are defined as:

**SJWD** = SJWD Water District, **USEPA** = US Environmental Protection Agency

**SCDHEC** = SC Department of Health and Environmental Control

**MCL** = Maximum Contaminant Level – The highest level of the contaminant that is allowed by the current regulations.

**MCLG** = Maximum Contaminant Level Goal – The level of a contaminant in drinking water below which there is no known or expected health risk.

**ppm** = parts per million, **ppb** = parts per billion, **NTU** = Nephelometric Turbidity Units, **mg./l** = milligrams per liter, **ug/l** = ultra gram per liter. **Action Level** = The concentration of a contaminant that triggers treatment or other requirements that a water system must follow. Action Levels are reported at the 90<sup>th</sup> percentile for homes at greatest risk.

**pic/l** = Picocuries per liter is a measure of the radioactivity in water.

**TT** = Treatment Technique – A required process intended to reduce the level of a contaminant in drinking water.

**N/A** = Not applicable or data not available, **ND** = Not Detected, **HDL** = Highest Detected Level, **A** = absent for organism

**(P)** = present for organism, **(Y)** = yes, **(N)** = no, **RAA** = Running Annual Average,

## **Information about Drinking Water Quality**

1. 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 animals or from human activity. 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 Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).
2. 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* are available from the Safe Drinking Water Hotline (800-426-4791).
3. 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 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, urban stormwater runoff, 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 stormwater runoff and septic systems.
  - Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.
4. In order to ensure that tap water is safe to drink, USEPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

*Esta información es de vital importancia sobre su agua potable. Por favor indíquenos si tiene alguna pregunta.*

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