


SEMINOLE COUNTY
FLORIDA'S NATURAL CHOICE

Seminole County
**Annual Drinking Water
Quality Report 2018**



Annual Drinking Water Quality Report-2018

Seminole County Environmental Services is pleased to present you with the 2018 Annual Drinking Water Quality Report. This report is designed to inform you about the quality water and services that we deliver to you every day. These results did not happen without the commitment and dedication of our team of licensed water operators whose goal is and always has been to provide to you a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are proud to share this report, which is based on water quality testing through December 2018; you will find that we supply water that meets or exceeds all federal and state water quality regulations.

In an effort to reduce paper consumption and minimize the impact on our environment, we offer Our Water Quality Report electronically to all our customers. This report is divided into a service area map and 11 individual drinking water service area water quality reports. To determine your drinking water service area, please utilize the report's service area map and find the vicinity of your address; use the color-coded legend to determine your service area and go directly to that part of the report. Or, feel free to peruse the water quality data for all drinking water service areas served by Seminole County. If you would like a printed copy of this report mailed to your address, please contact Environmental Services Customer Service office at 407-665-2110, to request your copy.

Sincerely,

Terrance McCue, Ph.D., P.E.

Director

Seminole County Environmental Services

Drinking Water Quality Report-Apple Valley Service Area 2018



We are pleased to present you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. 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. The drinking water for the Apple Valley Service Area is obtained from ground water wells and is chlorinated for disinfection purposes. If you have any questions about this report or concerning your water utility, please contact Seminole County Environmental Services at 407-665-2110.



Seminole County Environmental Services Department routinely monitors for contaminants in your drinking water according to Federal and State laws, rules and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2018. Data obtained before January 1, 2018, and presented in this report are from the most recent testing done in accordance with the laws, rules and regulations.

Source Water Assessment Plan

In 2018, the Department of Environmental Protection performed a Source Water Assessment on the City of Altamonte Springs, from whom we purchase your drinking water. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of their wells. There are five (5) potential sources of contamination identified for this system from low to moderate susceptibility levels. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

EPA Would Like You to Know

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.

Contaminants that may be present in source water include:

- (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- (B) *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.
- (C) *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- (D) *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.
- (E) *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, the EPA prescribes regulations, which 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.

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 calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

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).


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. Seminole County Environmental 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>.



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WATERING RESTRICTION SCHEDULE
EVEN HOUSE #'S THURSDAY AND SUNDAY
ODD HOUSE #'S WEDNESDAY AND SATURDAY
NON-RESIDENTIAL TUESDAY AND FRIDAY
RECLAIM CUSTOMERS TWO DAYS PER WEEK



Terms and Abbreviations

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Maximum Contaminant Level or MCL: 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 or MCLG: 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 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.

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.

“ND” means not detected and indicates that the substance was not found by laboratory analysis.

Parts per billion (ppb) or Micrograms per liter (µg/l): one part by weight of analyte to 1 billion parts by weight of the water sample.

Parts per million (ppm) or Milligrams per liter (mg/l): one part by weight of analyte to 1 million parts by weight of the water sample.

Picocurie per liter (pCi/L): measure of the radioactivity in water.

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

Apple Valley Service Area WATER QUALITY RESULTS

Apple Valley Consecutive Water System - PWS ID# 3590039

Inorganic Contaminants

Results in the Level Detected column for radioactive contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Barium (ppm) <i>City of Altamonte Springs</i>	03/17	N	0.009	0.0062 - 0.009	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm) <i>City of Altamonte Springs</i>	03/17	N	0.66	0.58 - 0.66	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum level of 0.7 ppm
Sodium (ppm) <i>City of Altamonte Springs</i>	03/17	N	15.0	10.3 - 15.0	N/A	160	Salt water intrusion, leaching from soil

Stage 2 Disinfectants/Disinfection By-Products

* For Bromate and Chlorine, the level detected is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. The Range of Results is the range of results of all the individual samples collected during the past year.

** For Haloacetic Acids (HAA5) or Total Trihalomethanes (TTHM), the level detected is the highest detected level at any sampling point. Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations.

*** For Haloacetic Acids (HAA5) or Total Trihalomethanes (TTHM), the level detected is the highest locational running annual average (LRAA). Range of Results is the range of individual samples results (lowest to highest) for all monitoring locations.

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chlorine (ppm) <i>Seminole County</i> <i>City of Altamonte Springs</i>	01/18 - 12/18 2018	N N	0.877 * 1.1	0.30 - 1.37 0.4 - 2.0	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (five) (HAA5) (ppb) <i>Seminole County</i> <i>City of Altamonte Springs</i>	07/18 2018	N N	18.73 ** 35.40 ***	17.26 - 18.73 13.6 - 40.4	NA	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb) <i>Seminole County</i> <i>City of Altamonte Springs</i>	07/18 2018	N N	38.66 ** 58.70 ***	34.52 - 38.66 13.3 - 77.8	NA	MCL = 80	By-product of drinking water disinfection

Lead and Copper (Tap Water)

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	AL Violation Y/N	90th Percentile Result	Number of sampling sites exceeding the AL	MCLG	AL	Likely Source of Contamination
Copper (tap water) (ppm) <i>Seminole County</i>	08/18	N	0.26	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

Drinking Water Quality Report-Black Hammock Service Area 2018



We are pleased to present you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. 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. The drinking water for the Black Hammock Consecutive Service Area is obtained from ground water wells, is chloraminated for disinfection purposes, and then fluoridated for dental health purposes. If you have any questions about this report or concerning your water utility, please contact Seminole County Environmental Services at 407-665-2110.



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Source Water Assessment Plan

In 2018, the Department of Environmental Protection performed a Source Water Assessment on City of Oviedo, from whom we purchase your drinking water. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of their wells. There are six (6) potential sources of contamination identified for this system with low to moderate susceptibility levels. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

EPA Would Like You to Know

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.

Contaminants that may be present in source water include:

- (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- (B) *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.
- (C) *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- (D) *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.
- (E) *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, the EPA prescribes regulations, which 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.

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 calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

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).


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. Seminole County Environmental 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>.



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Picocurie per liter (pCi/L): measure of the radioactivity in water.

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

Black Hammock Service Area WATER QUALITY RESULTS

Black Hammock Consecutive Water System (PWS ID# 3594186)

Inorganic Contaminants

Results in the Level Detected column for radioactive contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Arsenic (ppb) <i>City of Oviedo</i>	04/17	N	0.3	0.3	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm) <i>City of Oviedo</i>	04/17	N	0.017	0.017	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm) <i>City of Oviedo</i>	04/17	N	0.4	0.4	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum level of 0.7 ppm
Lead (point of entry) (ppb) <i>City of Oviedo</i>	04/17	N	0.5	0.5	0	15	Residue from man-made pollution such as auto emissions and paint; lead pipe, casing and solder
Sodium (ppm) <i>City of Oviedo</i>	04/17	N	39.0	39.0	NA	160	Salt water intrusion, leaching from soil
Nickel (ppb) <i>City of Oviedo</i>	04/17	N	0.1	0.1	NA	100	Pollution from mining and refining operations. Natural occurrence in soil.
Nitrate (as Nitrogen) (ppm) <i>City of Oviedo</i>	05/18	N	0.22	0.22	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Stage 1 Disinfectant/Disinfection By-Product

For bromate, chloramines, or chlorine, the level detected is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. The range of results is the range of results of all individual samples collected during the past year.

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chloramines (ppm) <i>Seminole County</i> <i>City of Oviedo</i>	01/18 - 12/18 01/18 - 12/18	N N	1.59 (Average) 2.05 (Average)	1.00 - 3.00 0.99 - 2.40	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes

Stage 2 Disinfectants/Disinfection By-Products

* For Haloacetic Acids (HAAs) or Total Trihalomethanes (TTHM), the level detected is the highest detected level at any sampling point. Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations.

** For Haloacetic Acids (HAAs) or Total Trihalomethanes (TTHM), the level detected is the highest locational running annual average (LRAA). Range of Results is the range of individual samples results (lowest to highest) for all monitoring locations.

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Haloacetic Acids (five) (HAAs) (ppb) <i>Seminole County</i> <i>City of Oviedo</i>	08/09/18 05/14/18	N N	17.19* 15.02*	17.19* 14.82 - 15.02*	NA	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb) <i>Seminole County</i> <i>City of Oviedo</i>	08/09/18 05/14/18	N N	18.06* 25.47*	18.06* 25.00 - 25.47*	NA	MCL = 80	By-product of drinking water disinfection

Lead and Copper (Tap Water)

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	AL Violation Y/N	90th Percentile Result	Number of sampling sites exceeding the AL	MCLG	AL	Likely Source of Contamination
Copper (tap water) (ppm) <i>Seminole County</i>	09/18	N	0.075	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

Drinking Water Quality Report-Chase Groves Consecutive Service Area 2018



We are pleased to present you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. 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. The drinking water for the Chase Groves Consecutive Service Area is obtained from ground water wells and is chlorinated for disinfection purposes and then fluoridated for dental health purposes. Polyphosphate is added for corrosion control. If you have any questions about this report or concerning your water utility, please contact Seminole County Environmental Services at 407-665-2110.



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Source Water Assessment Plan

In 2018, the Department of Environmental Protection performed a Source Water Assessment on City of Sanford, from whom we purchase your drinking water. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of their wells. There are ten (10) potential sources of contamination identified for this system with low to moderate susceptibility levels. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

EPA Would Like You to Know

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.

Contaminants that may be present in source water include:

- (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- (B) *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.
- (C) *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- (D) *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.
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In order to ensure that tap water is safe to drink, the EPA prescribes regulations, which 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.

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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).


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. Seminole County Environmental 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>.



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Terms and Abbreviations

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

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Parts per million (ppm) or Milligrams per liter (mg/l): one part by weight of analyte to 1 million parts by weight of the water sample.

Picocurie per liter (pCi/L): measure of the radioactivity in water.

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

Chase Groves Service Area

WATER QUALITY RESULTS

Chase Groves Consecutive Water System - PWS ID# 3594214

Radioactive Contaminants

Results in the Level Detected column for radioactive contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Radium 226 + 228 or combined radium (pCi/L) <i>City of Sanford</i>	03/18-12/18	N	1.64	ND - 1.64	0	5	Erosion of natural deposits

Inorganic Contaminants

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Arsenic (ppb) <i>City of Sanford</i>	09/28/2017	N	1.4	ND - 1.4	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm) <i>City of Sanford</i>	09/28/2017	N	0.023	0.0097 - 0.023	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm) <i>City of Sanford</i>	09/28/2017	N	0.6	0.57 - 0.6	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum level of 0.7 ppm
Nitrate (as Nitrogen) (ppm) <i>City of Sanford</i>	07/18/2018	N	0.23	0.08 - 0.23	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm) <i>City of Sanford</i>	09/28/2017	N	32.7	27.9 - 32.7	N/A	160	Salt water intrusion, leaching from soil

Stage 1 Disinfectants/Disinfection By-Products

For bromate, chloramines, or chlorine, the level detected is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. The range of results is the range of results of all individual samples collected during the past year.

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Bromate (ppb) <i>City of Sanford</i>	02/18-11/18	N	0.4	ND - 3.9	MCLG = 0	MCL = 10	By-product of drinking water disinfection
Chlorine (ppm) <i>Seminole County</i> <i>City of Sanford</i>	01/18 - 12/18 01/18 - 12/18	N N	1.323 1.3	0.88 - 1.79 0.4 - 2.10	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes

Stage 2 Disinfectants/Disinfection By-Products

* For Haloacetic Acids (HAA5) or Total Trihalomethanes (TTHM), the level detected is the highest detected level at any sampling point. Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations.

** For Haloacetic Acids (HAA5) or Total Trihalomethanes (TTHM), the level detected is the highest locational running annual average (LRAA). Range of Results is the range of individual samples results (lowest to highest) for all monitoring locations.

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Haloacetic Acids (five) (HAA5) (ppb) <i>Seminole County</i> <i>City of Sanford</i>	01/18 - 12/18 02/18 - 11/18	N N	22.0650 ** 22.2600 **	14.78 - 24.74** 6.43 - 23.22	NA	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb) <i>Seminole County</i> <i>City of Sanford</i>	01/18 - 12/18 02/18 - 11/18	N N	74.5550 ** 76.8300 **	50.39 - 74.67 24.35 - 74.88	NA	MCL = 80	By-product of drinking water disinfection

Lead and Copper (Tap Water)

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	AL Violation Y/N	90th Percentile Result	Number of sampling sites exceeding the AL	MCLG	AL	Likely Source of Contamination
Copper (tap water) (ppm) <i>Seminole County</i>	07/2017	N	0.029	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

Drinking Water Quality Report-Druid Hills Consecutive Service Area 2018



We are pleased to present you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. 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. The drinking water for the Druid Hills Service Area is obtained from ground water wells and is chlorinated for disinfection purposes. If you have any questions about this report or concerning your water utility, please contact Seminole County Environmental Services at 407-665-2110.



Seminole County Environmental Services Department routinely monitors for contaminants in your drinking water according to Federal and State laws, rules and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2018. Data obtained before January 1, 2018, and presented in this report are from the most recent testing done in accordance with the laws, rules and regulations.

Source Water Assessment Plan

In 2018, the Department of Environmental Protection performed a Source Water Assessment on our system. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of our wells. There are no (0) potential sources of contamination identified for this system. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

EPA Would Like You to Know

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.

Contaminants that may be present in source water include:

- (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- (B) *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.
- (C) *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- (D) *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.
- (E) *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, the EPA prescribes regulations, which 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.

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 calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

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).


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. Seminole County Environmental 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>.



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TWO DAYS PER WEEK



Terms and Abbreviations

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Maximum Contaminant Level or MCL: 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 or MCLG: 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 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.

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.

“ND” means not detected and indicates that the substance was not found by laboratory analysis.

Parts per billion (ppb) or Micrograms per liter (µg/l): one part by weight of analyte to 1 billion parts by weight of the water sample.

Parts per million (ppm) or Milligrams per liter (mg/l): one part by weight of analyte to 1 million parts by weight of the water sample.

Picocurie per liter (pCi/L): measure of the radioactivity in water.

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

Druid Hills Service Area WATER QUALITY RESULTS

Druid Hills Water System - PWS ID# 3590111

Inorganic Contaminants

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Barium (ppm)	05/18	N	0.0051	0.0051	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	05/18	N	0.26	0.26	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum level of 0.7 ppm
Nitrate (as Nitrogen) (ppm)	02/18	N	0.17	0.17	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) (ppm)	02/18	N	0.053	0.053	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	05/18	N	16	16	N/A	160	Salt water intrusion, leaching from soil

Synthetic Organic Contaminants including Pesticides and Herbicides

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Dalapon (ppb)	05/2018	N	2.3	2.3	200	200	Runoff from herbicide used on rights of way

Stage 2 Disinfectants/Disinfection By-Products

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** For Haloacetic Acids (HAA5) or Total Trihalomethanes (TTHM), the level detected is the highest detected level at any sampling point. Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations.

*** For Haloacetic Acids (HAA5) or Total Trihalomethanes (TTHM), the level detected is the highest locational running annual average (LRAA). Range of Results is the range of individual samples results (lowest to highest for all monitoring locations).

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chlorine (ppm)	01/18-12/18	N	1.135 (annual average)	0.63 - 1.60	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (five) (HAA5) (ppb)	01/18 - 07/18	N	32.58 **	21.84 - 32.58	N/A	MCL = 60	By-product of drinking water disinfection
TTHM [Total trihalomethanes] (ppb)	01/18 - 07/18	N	54.26 **	49.09 - 54.26	N/A	MCL = 80	By-product of drinking water disinfection

Lead and Copper (Tap Water)

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	AL Violation Y/N	90th Percentile Result	Number of sampling sites exceeding the AL	MCLG	AL	Likely Source of Contamination
Copper (tap water) (ppm)	08/2018	N	0.23	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	08/2018	N	2.20	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits

Drinking Water Quality Report-Lake Brantley Consecutive Service Area 2018



We are pleased to present you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. 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. The drinking water for the Lake Brantley Consecutive Service Area is obtained from ground water wells and is chlorinated for disinfection purposes. If you have any questions about this report or concerning your water utility, please contact Seminole County Environmental Services at 407-665-2110.



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Source Water Assessment Plan

In 2018, the Department of Environmental Protection performed a Source Water Assessment on Utilities Inc. of Florida, from whom we purchase your drinking water. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of their wells. There are six (6) potential sources of contamination ranging from low to moderate susceptibility levels. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

EPA Would Like You to Know

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.

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- (B) *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.
- (C) *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
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In order to ensure that tap water is safe to drink, the EPA prescribes regulations, which 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.

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 calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

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).


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Maximum Contaminant Level Goal or MCLG: 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.

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“ND” means not detected and indicates that the substance was not found by laboratory analysis.

Parts per billion (ppb) or Micrograms per liter (µg/l): one part by weight of analyte to 1 billion parts by weight of the water sample.

Parts per million (ppm) or Milligrams per liter (mg/l): one part by weight of analyte to 1 million parts by weight of the water sample.

Picocurie per liter (pCi/L): measure of the radioactivity in water.

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

Lake Brantley Service Area WATER QUALITY RESULTS

Lake Brantley Consecutive Water System - PWS ID# 3590685

Radioactive Contaminants

Results in the Level Detected column for radioactive contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Radium 226 + 228 or combined radium (pCi/L) <i>Utilities Inc. - Sanlando</i>	02/17	N	2.3	0.7 - 2.3	0	5	Erosion of natural deposits
Gross Alpha Emitters (pCi/L) <i>Utilities Inc. - Sanlando</i>	02/17	N	1.4	ND - 1.4	0	15	Erosion of natural deposits

Inorganic Contaminants

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Barium (ppm) <i>Utilities Inc. - Sanlando</i>	02/17	N	0.0135	0.0064 - 0.0135	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Sodium (ppm) <i>Utilities Inc. - Sanlando</i>	02/17	N	16.9	11.1 - 16.9	N/A	160	Salt water intrusion, leaching from soil

Stage 2 Disinfectants/Disinfection By-Products

* For Bromate and Chlorine, the level detected is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. The Range of Results is the range of results of all the individual samples collected during the past year.

** For Haloacetic Acids (HAAs) or Total Trihalomethanes (TTHM), the level detected is the highest detected level at any sampling point. Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations.

*** For Haloacetic Acids (HAAs) or Total Trihalomethanes (TTHM), the level detected is the highest locational running annual average (LRAA). Range of Results is the range of individual samples results (lowest to highest) for all monitoring locations.

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chlorine (ppm) <i>Seminole County Utilities Inc - Sanlando</i>	01/18 - 12/18 01/18 - 12/18	N N	1.944* 2.21	0.95 - 2.98 0.6 - 3.5	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (five) (HAAs) (ppb) <i>Seminole County Utilities Inc - Sanlando</i>	07/2018 08/2018	N N	12.83 ** 31.8 **	12.83 26.5 - 31.8	N/A	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb) <i>Seminole County Utilities Inc - Sanlando</i>	07/2018 08/2018	N N	33.53** 48.3 **	33.53 34.4 - 48.3	N/A	MCL = 80	By-product of drinking water disinfection

Lead and Copper (Tap Water)

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	AL Violation Y/N	90th Percentile Result	Number of sampling sites exceeding the AL	MCLG	AL	Likely Source of Contamination
Copper (tap water) (ppm) <i>Seminole County</i>	08/18	N	0.116	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb) <i>Seminole County</i>	08/18	N	2.6	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits

Drinking Water Quality Report-Meredith Manor Service Area 2018



We are pleased to present you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. 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. The drinking water for the Meredith Manor Service Area is obtained from ground water wells and is chlorinated for disinfection purposes. If you have any questions about this report or concerning your water utility, please contact Seminole County Environmental Services at 407-665-2110.



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Source Water Assessment Plan

In 2018, the Department of Environmental Protection performed a Source Water Assessment on Utilities Inc. of Florida, from whom we purchase your drinking water. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of their wells. There are six (6) potential sources of contamination identified for this system from low to moderate susceptibility levels. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

EPA Would Like You to Know

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.

Contaminants that may be present in source water include:

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Picocurie per liter (pCi/L): measure of the radioactivity in water.

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

Meredith Manor Service Area

WATER QUALITY RESULTS

Meredith Manor Consecutive Water System - PWS ID# 3590823

Radioactive Contaminants

Results in the Level Detected column for radioactive contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Radium 226 + 228 or combined radium (pCi/L) <i>Utilities Inc. - Sanlando</i>	02/17	N	2.3	0.7 - 2.3	0	5	Erosion of natural deposits
Gross Alpha Emitters (pCi/L) <i>Utilities Inc. - Sanlando</i>	02/17	N	1.4	ND - 1.4	0	15	Erosion of natural deposits

Inorganic Contaminants

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Barium (ppm) <i>Utilities Inc. - Sanlando</i>	02/17	N	0.0135	0.0064 - 0.0135	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Sodium (ppm) <i>Utilities Inc. - Sanlando</i>	02/17	N	16.9	1.1 - 16.9	N/A	160	Salt water intrusion, leaching from soil

Stage 2 Disinfectants/Disinfection By-Products

* For Bromate and Chlorine, the level detected is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. The Range of Results is the range of results of all the individual samples collected during the past year.

** For Haloacetic Acids (HAA5) or Total Trihalomethanes (TTHM), the level detected is the highest detected level at any sampling point. Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations.

*** For Haloacetic Acids (HAA5) or Total Trihalomethanes (TTHM), the level detected is the highest locational running annual average (LRAA). Range of Results is the range of individual samples results (lowest to highest) for all monitoring locations.

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chlorine (ppm) <i>Seminole County Utilities Inc - Sanlando</i>	01/18 - 12/18 01/18 - 12/18	N N	2.23 * 2.21	0.78 - 3.52 0.6 - 3.5	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (five) (HAA5) (ppb) <i>Seminole County Utilities Inc - Sanlando</i>	07/2018 08/2018	N N	23.75 ** 31.80	23.75 26.5 - 31.80	N/A	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb) <i>Seminole County Utilities Inc - Sanlando</i>	07/2018 08/2018	N N	33.04 ** 48.30	33.04 34.4 - 48.3	N/A	MCL = 80	By-product of drinking water disinfection

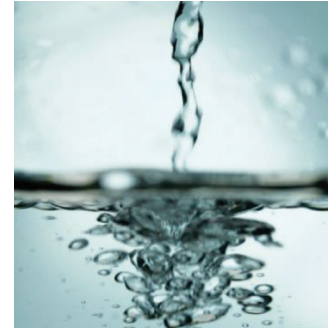
Lead and Copper (Tap Water)

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	AL Violation Y/N	90th Percentile Result	Number of sampling sites exceeding the AL	MCLG	AL	Likely Source of Contamination
Copper (tap water) (ppm) <i>Seminole County</i>	08/18	N	0.083	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

Drinking Water Quality Report- Northeast Service Area 2018



We are pleased to present you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. 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. The drinking water for the Northeast Service Area is obtained from ground water wells. The water is treated with ozone, filtered with granular activated carbon and is chlorinated for disinfection purposes. We then fluoridate for dental health purposes. If you have any questions about this report or concerning your water utility, please contact Seminole County Environmental Services at 407-665-2110.



Seminole County Environmental Services Department routinely monitors for contaminants in your drinking water according to Federal and State laws, rules and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2018. Data obtained before January 1, 2018, and presented in this report are from the most recent testing done in accordance with the laws, rules and regulations.

Source Water Assessment Plan

In 2018, the Department of Environmental Protection performed a Source Water Assessment on our system. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of our wells. There is one (1) potential source of contamination identified for this system with moderate susceptibility level. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

EPA Would Like You to Know

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.

Contaminants that may be present in source water include:

- (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- (B) *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.
- (C) *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- (D) *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.
- (E) *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, the EPA prescribes regulations, which 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.

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 calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

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).


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. Seminole County Environmental 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>.



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Terms and Abbreviations

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

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Maximum Contaminant Level Goal or MCLG: 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 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.

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.

“ND” means not detected and indicates that the substance was not found by laboratory analysis.

Parts per billion (ppb) or Micrograms per liter (µg/l): one part by weight of analyte to 1 billion parts by weight of the water sample.

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Picocurie per liter (pCi/L): measure of the radioactivity in water.

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

Northeast Service Area WATER QUALITY RESULTS

Northeast Water System - PWS ID# 3590473

Water Quality Testing Results Table

Inorganic Contaminants

Results in the Level Detected column for radioactive contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Barium (ppm)	02/17	N	0.007	0.007	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	02/17	N	0.25	0.25	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at the optimum level of 0.7 ppm
Nitrate (as Nitrogen) (ppm)	02/18	N	0.21	0.21	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Arsenic (ppb)	02/17	N	0.1	0.1	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes.
Sodium (ppm)	02/17	N	7.8	7.80	N/A	160	Salt water intrusion, leaching from soil

Stage 1 Disinfectants/Disinfection By-Products

For bromate, chloramines, or chlorine, the level detected is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. The range of results is the range of results of all individual samples collected during the past year.

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Bromate (ppb)	01/18-12/18	N	0.92 (annual average)	0.00 - 11.0	MCLG = 0	MCL = 10	By-product of drinking water disinfection
Chlorine (ppm)	01/18-12/18	N	1.097 (annual average)	0.25 - 2.06	MRDLG=4	MRDL=4	Water additive used to control microbes

Stage 2 Disinfectants/Disinfection By-Products

* For Haloacetic Acids (HAA5) or Total Trihalomethanes (TTHM), the level detected is the highest detected level at any sampling point. Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations.

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Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Haloacetic Acids (HAA5) (ppb)	11/2018	N	16.56 *	7.87 - 16.56	NA	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb)	11/2018	N	40.78 *	25.93 - 40.78	NA	MCL = 80	By-product of drinking water disinfection

Lead and Copper (Tap Water)

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	AL Violation Y/N	90th Percentile Result	Number of sampling sites exceeding the AL	MCLG	AL	Likely Source of Contamination
Copper (tap water) (ppm)	07/18 - 08/18	N	0.85	2	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

The Fourth Unregulated Contaminant Monitoring Rule (UCMR4)

Purpose : To collect occurrence data for contaminants suspected to be present in drinking water but that do not have health-based standards set under the Safe Drinking Water Act (SDWA). Northeast Regional Water Treatment Plant has been monitoring these unregulated contaminants as part of a study to help the US Environmental Protection Agency determine whether or not these contaminants need to be regulated. The UCMR program is the primary source of drinking water contaminant occurrence data used by EPA in regulatory determinations. If you would like more information on the EPA's Unregulated Contaminants Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791

Contaminant and Unit of Measurement	Maximum Level	Average Level	Range of Results	Likely Source of Contamination
HAA5 (ppb)	14.388	11.236	8.084 - 14.388	By-product of drinking water disinfection
HAA6Br (ppb)	11.165	9.2775	7.390 - 11.165	By-product of drinking water disinfection
HAA9 (ppb)	24.015	19.323	14.631 - 24.015	By-product of drinking water disinfection
TOC (ppb)	1300	1300	1300	Naturally present in the environment
Manganese (ppb)	1300	1300	1300	Natural occurrence from soil leaching

Drinking Water Quality Report-Northwest Service Area 2018



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Source Water Assessment Plan

In 2018, the Department of Environmental Protection performed a Source Water Assessment on our system. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of our wells. There are nine (9) potential sources of contamination identified for this system from low to moderate susceptibility levels. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

EPA Would Like You to Know

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.

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Northwest Service Area WATER QUALITY RESULTS

Northwest Water System - PWS ID# 3594107

Water Quality Testing Results Table

Radioactive Contaminants

Results in the Level Detected column for radioactive contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Radium 226 (pCi/L)	02/17	N	1.3	1.3	0	5	Erosion of natural deposits
Gross Alpha (incl Radon & Uranium) (pCi/L)	02/17	N	7.8	7.8	0	15	Erosion of natural deposits

Inorganic Contaminants

Results in the Level Detected column for radioactive contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Barium (ppm)	02/17	N	0.0094	0.0094	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	02/17	N	0.42	0.42	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at the optimum level of 0.7 ppm
Nitrate (as Nitrogen) (ppm)	02/18	N	0.15	0.15	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	02/17	N	33	33.0	N/A	160	Salt water intrusion, leaching from soil

Stage 1 Disinfectants/Disinfection By-Products

For bromate, chloramines, or chlorine, the level detected is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. The range of results is the range of results of all individual samples collected during the past year.

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chlorine (ppm)	01/18-12/18	N	1.156	0.38 - 1.91	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Bromate (ppb)	01/18-12/18	N	4.530	8.40 - 17.00	MCLG = 0	MCL = 10	By-product of drinking water disinfection

Stage 2 Disinfectants/Disinfection By-Products

* For Haloacetic Acids (HAA5) or Total Trihalomethanes (TTHM), the level detected is the highest detected level at any sampling point. Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations.
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Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Haloacetic Acids (HAA5) (ppb)	01/18-12/18	N	16.6575 **	9.64 - 18.93	N/A	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb)	01/18-12/18	N	74.6850 **	38.12 - 90.41	N/A	MCL = 80	By-product of drinking water disinfection

Three (3) samples during 2018 had a TTHM result of 82.08 ppb, 88.68, and 90.41 ppb respectively, which exceeds the MCL of 80 ppb. However, the system did not incur an MCL violation, because all annual average results at all sites were at or below the MCL. Some people who drink water containing trihalomethanes in excess of MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

TTHM Monitoring Results (ppb)	1st Quarter 2018	2nd Quarter 2018	3rd Quarter 2018	4th Quarter 2018
Site 1 ** NW - 39 8507 Cypress Hollow Ct. Quarterly Results	71.47	55.36	90.41	68.66
Site 1 ** NW - 39 8507 Cypress Hollow Ct. LRAA*	65.1275	61.8400	67.6450	71.4750
Site 2 ** NW - 56 1799 Astor Farms Pl. Quarterly Results	72.49	60.01	70.58	82.08
Site 2 ** NW - 56 1799 Astor Farms Pl. LRAA*	68.0775	65.1100	68.8650	71.2900
Site 3 ** NW - 64 1924 Bridgewater Dr. Quarterly Results	67.44	68.22	88.68	74.40
Site 3 ** NW - 64 1924 Bridgewater Dr. LRAA*	73.8250	71.8575	71.8350	74.6850

* Reported LRAA for quarters 1-3 are based on results from previous quarters not reported on this table.
 ** Pursuant to 26-550.730(1)(b)8... Legal addresses, or the best descriptions possible shall be given for each sampling point.

Lead and Copper (Tap Water)

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	AL Violation Y/N	90th Percentile Result	Number of sampling sites exceeding the AL	MCLG	AL	Likely Source of Contamination
Copper (tap water) (ppm)	07/2017	N	0.27	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	07/2017	N	3.00	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits

Drinking Water Quality Report- Southeast Service Area 2018



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Maximum Contaminant Level or MCL: 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 or MCLG: 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 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.

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.

"ND" means not detected and indicates that the substance was not found by laboratory analysis.

Parts per billion (ppb) or Micrograms per liter ($\mu\text{g}/\text{l}$): one part by weight of analyte to 1 billion parts by weight of the water sample.

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Picocurie per liter (pCi/L): measure of the radioactivity in water.

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

Southeast Service Area

WATER QUALITY RESULTS

Southeast Water System - PWS ID# 3590571

Water Quality Testing Results Table

Inorganic Contaminants

Results in the Level Detected column for radioactive contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Arsenic (ppb)	02/17	N	0.13	0.13	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	02/17	N	0.0097	0.0072 - 0.0097	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	02/17	N	0.59	0.55 - 0.59	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at the optimum level of 0.7 ppm
Nitrate (as Nitrogen) (ppm)	02/18	N	0.14	0.051 - 0.14	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium (ppb)	02/17	N	1.0	1	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Sodium (ppm)	02/17	N	15.0	11.0 - 15.0	NA	160	Salt water intrusion, leaching from soil

Stage 1 Disinfectants/Disinfection By-Products

For bromate, chloramines, or chlorine, the level detected is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. The range of results is the range of results of all individual samples collected during the past year.

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chlorine (ppm)	01/18-12/18	N	1.197	0.24 - 2.10	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Bromate (ppb)	01/18-12/18	N	2.13	2.50 - 12.00	MCLG = 0	MCL = 10	By-product of drinking water disinfection

Stage 2 Disinfectants/Disinfection By-Products

* For Haloacetic Acids (HAAs) or Total Trihalomethanes (TTHM), the level detected is the highest detected level at any sampling point. Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations.

** For Haloacetic Acids (HAAs) or Total Trihalomethanes (TTHM), the level detected is the highest locational running annual average (LRAA). Range of Results is the range of individual samples results (lowest to highest) for all monitoring locations.

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Haloacetic Acids (HAAs) (ppb)	01/18-12/18	N	31.8250 **	15.71 - 39.84	NA	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb)	01/18-12/18	N	77.7675 **	32.84 - 123.39	NA	MCL = 80	By-product of drinking water disinfection

Two (2) samples during 2018 had a TTHM result of 123.39 ppb and 88.96 ppb respectively, which exceeds the MCL of 80 ppb. However, the system did not incur an MCL violation, because all annual average results at all sites were at or below the MCL. Some people who drink water containing trihalomethanes in excess of MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

TTHM Monitoring Results (ppb)	1st Quarter 2018	2nd Quarter 2018	3rd Quarter 2018	4th Quarter 2018
Site 1 ** SE - 39 4909 Petra Ct. Quarterly Results	49.69	123.39	39.46	49.24
Site 1 ** SE - 39 4909 Petra Ct. LRAA*	61.6075	77.7675	68.4075	66.4450
Site 2 ** SE - 125 5971 Brick Ct. Quarterly Results	47.49	88.96	32.84	39.85
Site 2 ** SE - 125 5971 Brick Ct. LRAA*	56.1025	64.5750	56.8050	52.2850

* Reported LRAA for quarters 1-3 are based on results from previous quarters not reported on this table.

** Pursuant to 26-550.730(1)(b)8... Legal addresses, or the best descriptions possible shall be given for each sampling point.

Lead and Copper (Tap Water)

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	AL Violation Y/N	90th Percentile Result	Number of sampling sites exceeding the AL	MCLG	AL	Likely Source of Contamination
Copper (tap water) (ppm)	07/2017	N	0.2	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	07/2017	N	5.40	1	0	15	Corrosion of household plumbing systems; erosion of natural deposits

The Fourth Unregulated Contaminant Monitoring Rule (UCMR4)

Purpose: To collect occurrence data for contaminants suspected to be present in drinking water but that do not have health-based standards set under the Safe Drinking Water Act (SDWA). Northeast Regional Water Treatment Plant has been monitoring these unregulated contaminants as part of a study to help the US Environmental Protection Agency determine whether or not these contaminants need to be regulated. The UCMR program is the primary source of drinking water contaminant occurrence data used by EPA in regulatory determinations. If you would like more information on the EPA's Unregulated Contaminants Monitoring Rule, please call the Safe Drinking Water Hotline at (800) 426-4791.

Contaminant and Unit of Measurement	Maximum Level	Average Level	Range of Results	Likely Source of Contamination
HAA5 (ppb)	14.388	11.236	8.084 - 14.388	By-product of drinking water disinfection
HAA6Br (ppb)	11.165	9.2775	7.390 - 11.165	By-product of drinking water disinfection
HAA9 (ppb)	24.015	19.323	14.631 - 24.015	By-product of drinking water disinfection
TOC (ppb)	1300	1300	1300	Naturally present in the environment
Manganese (ppb)	1300	1300	1300	Natural occurrence from soil leaching
2-methoxyethanol (ppb)	3.872	3.872	3.872	Discharge from resins, lacquers, paints and varnishes; found in cleaning compounds cosmetics and as a fuel de-icer additive

Drinking Water Quality Report-Southwest Service Area 2018



We are pleased to present you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. 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. The drinking water for the Southwest Service Area is obtained from ground water wells and is chlorinated for disinfection purposes and then fluoridated for dental health purposes. If you have any questions about this report or concerning your water utility, please contact Seminole County Environmental Services at 407-665-2110.



Seminole County Environmental Services Department routinely monitors for contaminants in your drinking water according to Federal and State laws, rules and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2018. Data obtained before January 1, 2018, and presented in this report are from the most recent testing done in accordance with the laws, rules and regulations.

Source Water Assessment Plan

In 2018, the Department of Environmental Protection performed a Source Water Assessment on our system. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of our wells. There are two (2) potential sources of contamination identified for this system with moderate susceptibility levels. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

EPA Would Like You to Know

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.

Contaminants that may be present in source water include:

- (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- (B) *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.
- (C) *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- (D) *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.
- (E) *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, the EPA prescribes regulations, which 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.

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 calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

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).


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. Seminole County Environmental 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>.



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Leaks can account for, on average, 10,000 gallons of water wasted in the home every year, which is enough to fill a backyard swimming pool!

WATERING RESTRICTION SCHEDULE
EVEN HOUSE #'S THURSDAY AND SUNDAY
ODD HOUSE #'S WEDNESDAY AND SATURDAY
NON-RESIDENTIAL TUESDAY AND FRIDAY
RECLAIM CUSTOMERS
TWO DAYS PER WEEK



Terms and Abbreviations

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Maximum Contaminant Level or MCL: 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.

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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.

“ND” means not detected and indicates that the substance was not found by laboratory analysis.

Parts per billion (ppb) or Micrograms per liter (µg/l): one part by weight of analyte to 1 billion parts by weight of the water sample.

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Picocurie per liter (pCi/L): measure of the radioactivity in water.

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

Southwest Service Area WATER QUALITY RESULTS

Southwest Water System - PWS ID# 3590785

Water Quality Testing Results Table

Inorganic Contaminants

Results in the Level Detected column for radioactive contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Barium (ppm)	02/17	N	0.0091	0.0091	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	02/17	N	0.65	0.65	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at the optimum level of 0.7 ppm
Sodium (ppm)	02/17	N	8.6	8.6	N/A	160	Salt water intrusion, leaching from soil

Stage 2 Disinfectant/Disinfection By-Products

* For Bromate and Chlorine, the level detected is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. The Range of Results is range of results of all the individual samples collected during the past year.
 * For Haloacetic Acids (HAA5) or Total Trihalomethanes (TTHM), the level detected is the highest detected level at any sampling point. Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations.
 ** For Haloacetic Acids (HAA5) or Total Trihalomethanes (TTHM), the level detected is the highest locational running annual average (LRAA). Range of Results is the range of individual samples results (lowest to highest) for all monitoring locations.

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chlorine (ppm)	01/18-12/18	N	1.435*	0.28 - 2.18	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb)	01/18	N	26.89 *	11.16 - 26.89	N/A	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb)	01/18	N	48.08 *	27.25 - 48.08	N/A	MCL = 80	By-product of drinking water disinfection

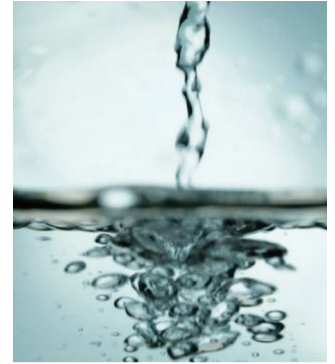
Lead and Copper (Tap Water)

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	AL Violation Y/N	90th Percentile Result	Number of sampling sites exceeding the AL	MCLG	AL	Likely Source of Contamination
Copper (tap water) (ppm)	07/2017	N	0.45	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	07/2017	N	2.10	1	0	15	Corrosion of household plumbing systems, erosion of natural deposits

Drinking Water Quality Report-Sun Shadows Consecutive Service Area 2018



We are pleased to present you this year's Annual Water Quality Report. This report is designed to inform you about the quality water and services we deliver to you every day. Our constant goal is to provide you with a safe and dependable supply of drinking water. 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. The drinking water for the Sun Shadows Consecutive Service Area is obtained from ground water wells and is chlorinated for disinfection purposes. If you have any questions about this report or concerning your water utility, please contact Seminole County Environmental Services at 407-665-2110.



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Source Water Assessment Plan

In 2018, the Department of Environmental Protection performed a Source Water Assessment on City of Casselberry, from whom we purchase your drinking water. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of their wells. There are eleven (11) potential sources of contamination identified for this system from low to moderate susceptibility levels. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.depstate.fl.us/swapp.

EPA Would Like You to Know

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.

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- (B) *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.
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Picocurie per liter (pCi/L): measure of the radioactivity in water.

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

Sunshadows Service Area WATER QUALITY RESULTS

Sun Shadows Consecutive Water System - PWS ID# 3594216

Radioactive Contaminants

Results in the Level Detected column for radioactive contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Alpha Emitters (pCi/L) <i>City of Casselberry</i>	05/14	N	2.5	1.0 - 2.5	0	15	Erosion of natural deposits
Radium 226 + 228 or combined radium (pCi/L) <i>City of Casselberry</i>	05/14	N	2.5	0.6 - 2.5	0	5	Erosion of natural deposits

Inorganic Contaminants

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Barium (ppm) <i>City of Casselberry</i>	05/17	N	0.017	0.009 - 0.017	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm) <i>City of Casselberry</i>	05/17	N	0.29	0.27 - 0.29	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum level of 0.7 ppm
Nitrate (as Nitrogen)(ppm) <i>City of Casselberry</i>	01/18	N	0.26	ND - 0.26	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen)(ppm) <i>City of Casselberry</i>	01/18	N	ND	ND	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm) <i>City of Casselberry</i>	05/17	N	13	8.9 - 13.0	N/A	160	Salt water intrusion, leaching from soil

Stage 2 Disinfectants/Disinfection By-Products

* For Bromate and Chlorine, the level detected is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. The Range of Results is the range of results of all the individual samples collected during the past year.

** For Haloacetic Acids (HAA5) or Total Trihalomethanes (TTHM), the level detected is the highest detected level at any sampling point. Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations.

*** For Haloacetic Acids (HAA5) or Total Trihalomethanes (TTHM), the level detected is the highest locational running annual average (LRAA). Range of Results is the range of individual samples results (lowest to highest) for all monitoring locations.

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chlorine (ppm) <i>Seminole County City of Casselberry</i>	01/18 - 12/18 01/18 - 12/18	N N	1.026* 1.4	0.68 - 1.35 1.28 - 1.50	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (five) (HAA5) (ppb) <i>Seminole County City of Casselberry</i>	02/18 - 11/18 02/18 - 11/18	N N	33.25 ** 29.785	29.93 - 35.33 19.08 - 32.94	NA	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb) <i>Seminole County City of Casselberry</i>	02/18 - 11/18 02/18 - 11/18	N N	66.20** 63.44	51.04 - 78.53 25.12 - 67.77	NA	MCL = 80	By-product of drinking water disinfection

Lead and Copper (Tap Water)

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	AL Violation Y/N	90th Percentile Result	Number of sampling sites exceeding the AL	MCLG	AL	Likely Source of Contamination
Copper (tap water) (ppm)	08/18	N	0.36	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	08/18	N	1.5	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits