



Seminole County Environmental Services is pleased to present you with the 2019 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 2019; 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.

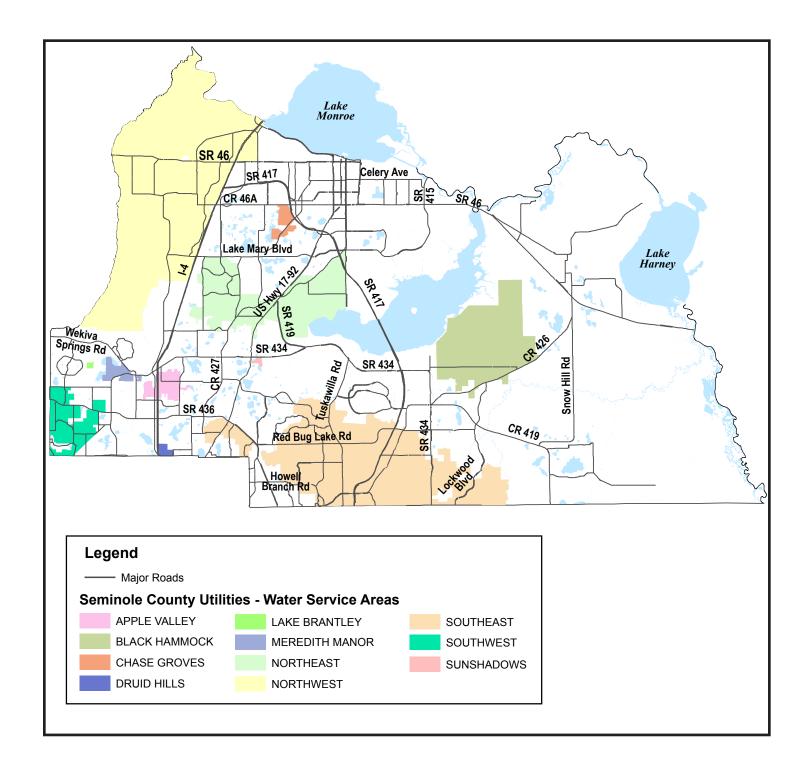
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Director

Seminole County Environmental Services



Map of Water Service Areas





Drinking Water Quality Report-Apple Valley Service Area 2019



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 (PWS #3590039) is obtained from ground water wells, aerated to remove hydrogen sulfide, chlorinated for disinfection, fluoridated for dental purposes and orthophosphate 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.



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, 2019. Data obtained before January 1, 2019, 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 2019, 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 with low 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.



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.









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.



Apple Valley Service Area

WATER QUALITY RESULTS

Apple Valley Consecutive Water System - PWS ID# 3590039

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) City of Altamonte Springs	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) City of Altamonte Springs	04/17	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) City of Altamonte Springs	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 Haloacetic Acids (HAA5) or Total Trihalomethanes (TTHM), the level detected is the highest locational running annual average (hax), complete quarierly, or monthly averages of an samples collected. The Range of Results is the range of Results is the 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) Seminole County City of Altamonte Springs	01/19 - 12/19 2019	N N	0.86 * 1.1	0.37 - 1.37 0.2 - 2.2	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (five) (HAA5) (ppb) Seminole County City of Altamonte Springs	07/19 2019	N N	21.38 ** 32.0 ***	16.32 - 21.38 13.2 - 36.7	NA	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb) Seminole County City of Altamonte Springs	07/18 2018	N N	47.15 ** 53.50 ***	38.46 - 47.15 28.3 - 57.1	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) Seminole County	08/18	N	0.26	0	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 ogram is the primary source of drinking water contaminant occurence data used by EPA in regulatory determinations. If you would like more information on the EPA's Unregulated Contaminants Monitoring Rule, pleas

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	Maximum Level	Average Level	Range of Results	Likely Source of Contamination
Haloacetic acids (HAA5) (ppb)	3/19-8/19	33.3	21.6	11.9 - 33.3	By-product of drinking water disinfection
Haloacetic acids (HAA6Br) (ppb)	3/19-8/19	11.6	7.7	6.27 -11.6	By-product of drinking water disinfection
Haloacetic acids (HAA9) (ppb)	3/19-8/19	44.37	29.3	17.67 -44.37	By-product of drinking water disinfection
Total Organic Carbon (ppb)	3/19-8/19	1750	1121.8	718 - 1750	Naturally present in the environment
Bromide (ppb)	3/19-8/19	43.1	34.8	30.1 - 43.1	Naturally present in the environment
Manganese (ppb)	3/19-8/19	45.7	12.7	1.2 - 45.7	Naturally occurring element; used in steel production, fertilizer, batteries and fireworks
Geranium(ppb)	3/19-8/19	1.5	0.4	ND - 1.5	Naturally occurring element; byproduct of zonc ore processing, used in infrared optics, fiber optics systems, electronic & solar applications



Drinking Water Quality Report-Black Hammock Service Area 2019



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 (PWS #3594186) is obtained from ground water wells, Carbon Dioxide is used to adjust the pH, sent thru aeration towers to remove hydrogen sulfide, chloraminated for disinfection, 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, 2019. Data obtained before January 1, 2019, 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 2019, 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.



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.









Terms and Abbreviations

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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 ($\mu g/I$): 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/I): 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.



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 the highest detected level at any sampling point, depending on the sampling frequency.

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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) City of Oviedo	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) City of Oviedo	04/17	N	0.017	0.017	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits			
Fluoride (ppm) City of Oviedo	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) City of Oviedo	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) City of Oviedo	04/17	N	39.0	39.0	NA	160	Salt water intrusion, leaching from soil			
Nickel (ppb) City of Oviedo	04/17	N	0.1	0.1	NA	100	Pollution from mining and refining operations. Natural occurrence in soil.			
Nitrate (as Nitrogen ppm) City of Oviedo	05/19	N	0.47	0.47	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.

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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
	Chloramines (ppm) Seminole County City of Oviedo	01/19 - 12/19 01/19- 12/19	N	1.47 (Average) 2.30 (Average)	0.99 - 2.28 1.00 - 3.40	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 (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 location

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) Seminole County City of Oviedo	08/08/19 05/13/19	N N	12.00* 10.99*	12.00* 10.95 - 10.99*	NA	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb) Seminole County City of Oviedo	08/08/19 05/13/19	N N	2454* 21.34*	24.54* 20.03 - 21.34*	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) Seminole County	09/18	N	0.075	0	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 occurence 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	Date of Sampling (mo/yr)	Maximum Level	Average Level	Range of Results	Likely Source of Contamination
Haloacetic acid (HAA5) (ppb)	04/18, 10/18	10.2	6.6	4.7-10.2	By-product of drinking water disinfection
Haloacetic acid (HAA6Br) (ppb)	04/18, 10/18	7.66	5.77	4.12-7.66	By-product of drinking water disinfection
Total Organic Carbon (ppm)	04/18, 10/18	1.4	1.3	1.2 -1.4	Naturally present in the environment
Bromide (ppb)	04/18, 10/18	197	188	179 -197	Naturally present in the environment
Manganese (ppb)	04/18, 10/18	3	2.95	2.9 -3.0	Natural occurrence from soil leaching



Drinking Water Quality Report-Chase Groves Consecutive Service Area 2019



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 (PWS #3594214) 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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31, 2019. Data obtained before January 1, 2019, 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 2019, 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.

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- (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.



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.









Terms and Abbreviations

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



Chase Groves Service Area WATER QUALITY RESULTS

Chase Groves Consecutive Water System - PWS ID# 3594214

				Radioactive Contar	ninants				
Results in the Level Detected colum	nn for radioactive contan	ninants, inorganic cont					ganic contaminants are the highest average at any of the sampling points or the		
Contaminant and Unit of	Date of Sampling	MCL Violation		at any sampling point, depe	nding on the sampi	ing frequency.			
Measurement	(mo/yr)	Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination		
Radium 226 + 228 or combined radium (pCi/L) City of Sanford	01/16/19 - 1/19/19	N	2.02	ND - 2.02	0	5	Erosion of natural deposits		
Alpha emitters (pCi/L) City of Sanford	01/16/19 - 1/19/19	N	3.27	ND - 3.27	0	15	Erosion of natural deposits		
				Inorganic Contam	inants				
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) City of Sanford	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) City of Sanford	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) City of Sanford	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) City of Sanford	05/22/2019	N	0.32	0.06 - 0.32	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits		
Sodium (ppm) City of Sanford	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 chlo	orine, the level detected i	s the highest running a	annual average (RAA), con	nputed quarterly, of monthly the past year.	averages of all sar	nples collected. The	range of results is the range of results of all individual samples collected during		
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) City of Sanford	01/19-12/19	N	2.6*	ND - 13.0	MCLG = 0	MCL = 10	By-product of drinking water disinfection		
Chlorine (ppm) Seminole County City of Sanford	01/19 - 12/19 01/19 - 12/19	N N	1.29* 1.3*	0.75 - 1.77 0.2 - 2.40	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes		
			Stage 2 Di	sinfectants/Disinfe	ction By-Prod	ucts			
* For Haloacetic Acids (HAA	.5) or Total Trihalometha	nes (TTHM), the level	detected is the highest det	tected level at any sampling	point. Range of Re	sults is the range of i	individual sample results (lowest to highest) for all monitoring locations.		
** For Haloacetic Acids (HAA5)	or Total Trihalomethane	es (TTHM), the level de	tected is the highest locat	ional running annual averag	e (LRAA). Range of	Results is the range	of individaul 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) Seminole County Gty of Sanford	01/19 - 12/19 02/19 - 11/19	N	21.215 * 20.74 **	16.20 - 28.15** 6.83 - 21.49	NA	MCL = 60	By-product of drinking water disinfection		
Total Trihalomethanes (TTHM) (ppb)	02/13 11/13								
Seminole County City of Sanford	01/19 - 12/19 02/19 - 11/19	N N	76.585 ** 58.260 **	100.69 - 52.23 ND - 75.78	NA	MCL = 80	By-product of drinking water disinfection		
					, kidneys, or centra	l nervous systems,	ge results at all sites were at or below the MCL. Some people who drink water and may have an increased risk of getting cancer.		
TTHM Monitoring Results (p	pb)	1st Quarter 2019	2nd Quarter 2019	3rd Quarter 2019		Quarter 119			
CG-5 2999 Greenwood Sprin Quarterly Results	gs Loop	55.38	79.42	70.85	10	0.69			
CG-5 2999 Greenwood Sprin LRAA	gs Loop	64.655	66.555	70.08	76.	585			
			Le	ead and Copper (Ta	p 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) Seminole County	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 2019



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 (PWS #3590111) 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, 2019. Data obtained before January 1, 2019, 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 2019, 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.

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.









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.



Druid Hills Service Area

WATER QUALITY RESULTS

Druid Hills Water System - PWS	ID# 3590111
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	Bruid Tillis Water Gysterii - I We 15# 5050111										
	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)	02/19	N	0.46	0.46	10	10	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 Orga	anic Contaminants incl	uding Pesticide	s and Herbecides					
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)	01/19-12/19	N	1.1	ND - 1.1	200	200	Runoff from herbecide used on rights of way				

Stage 2 Disinfectants/Disinfection By-Products

- * For Bromate and Chlorine, the level detected is the highest running annual average (RAA), computed quarerly, 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

Measurement	Sampling (mo/yr)	Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chlorine (ppm) Seminole County City of Altamonte Springs	01/19-12/19 7/19-12/19	N N	0.96 * 1.1	0.45 - 1.69 0.2 - 2.2	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (five) (HAA5) (ppb) Seminole County City of Altamonte Springs	07/19 1/19-12/19	N N	21.71 ** 32.0 ***	16.59 - 21.71 13.2 - 36.7	NA	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb) Seminole County City of Altamonte Springs	07/19 1/19-12/19	N N	49.82 ** 53.50 ***	35.83 - 49.82 28.3 - 57.1	NA	MCL = 80	By-product of drinking water disinfection

Lead and Copper (Tap Water) Number of sampling Date of Contaminant and Unit of AL Violation 90th Percentile Sampling sites exceeding the MCLG ΑL **Likely Source of Contamination** Measurement Y/N Result (mo/yr) ΑL Corrosion of household plumbing systems; erosion of natural 08/2018 N 0 0.23 1.3 1.3 Copper (tap water) (ppm) deposits; leaching from wood preservatives Corrosion of household plumbing systems, erosion of natural Lead (tap water) (ppb) 08/2018 Ν 2.20 0 0 15 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 occurence 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	Date of Sampling (mo/yr)	Maximum Level	Average Level	Range of Results	Likely Source of Contamination
Haloacetic acids (HAA5) (ppb)	3/19-8/19	33.3	21.6	11.9 - 33.3	By-product of drinking water disinfection
Haloacetic acids (HAA6Br) (ppb)	3/19-8/19	11.6	7.7	6.58 -11.6	By-product of drinking water disinfection
Haloacetic acids (HAA9) (ppb)	3/19-8/19	44.37	29.3	17.67 -44.37	By-product of drinking water disinfection
Total Organic Carbon (ppb)	3/19-8/19	1750	1121.8	718 - 1750	Naturally present in the environment
Bromide (ppb)	3/19-8/19	43.1	34.8	30.1 - 43.1	Naturally present in the environment
Manganese (ppb)	3/19-8/19	45.7	12.7	1.2 - 45.7	Naturally occurring element; used in steel production, fertilizer, batteries and fireworks
Geranium(ppb)	3/19-8/19	1.5	0.4	ND - 1.5	Naturally occurring element; byproduct of zonc ore processing, used in infrared optics, fiber optics systems, electronic & solar applications



Drinking Water Quality Report-Lake Brantley Consecutive Service Area 2019



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 (PWS #3590685) is obtained from ground water wells, aerated to remove hydrogen sulfide, chlorinated for disinfection, orthopolyphosphate 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.



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, 2019. Data obtained before January 1, 2019, 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 2019, 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.

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.



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.









Terms and Abbreviations

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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.

Likely Source of Contamination



Contaminant and Unit of

Utilities Inc. - Sanlando

MCL Violation

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.

Measurement	(mo/yr)	Y/N	Level Detected	nunge of nesures	WICEG	IVICE	Encry Source of contamination		
Radium 226 + 228 or combined radium (pCi/L) Utilities Inc Sanlando	02/17	N	2.3	0.7 - 2.3	0	5	Erosion of natural deposits		
Gross Alpha Emitters (pCi/L) Utilities Inc Sanlando	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) Utilities Inc Sanlando	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)	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 quarerly, 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 location

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)							
Seminole County	01/19 - 12/19	N	2.13*	0.46 - 3.02	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Utilities Inc - Sanlando	01/19 - 12/19	N	2.40	0.8 - 3.4			
Haloacetic Acids (five)							
(HAA5) (ppb)					N/A	MCL = 60	By-product of drinking water disinfection
Seminole County	07/2018	N	12.83 **	12.83	IN/A	IVICE - 60	by-product of drinking water distinection
Utilities Inc - Sanlando	08/2019	N	23.9 **	13.2 - 23.9			
Total Trihalomethanes							
(TTHM) (ppb)					NI/A	MCL = 80	Du product of dripking water disinfection
Seminole County	07/2018	N	33.53**	33.53	N/A	IVICE = 80	By-product of drinking water disinfection
Utilities Inc - Sanlando	08/2018	N	50.4 **	18.0 - 50.4			

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) Seminole County	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) Seminole County	08/18	N	2.6	0	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 occurence 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	Date of Sampling (mo/yr)	Maximum Level	Average Level	Range of Results	Likely Source of Contamination
Total Organic Carbon (ppb)	1/19	1160	404.545	ND - 1160	Naturally present in the environment
Bromide (ppb)	1/19	51.2	34.736	26 - 51.2	Naturally present in the environment
Manganese (ppb)	1/19	2.3	1.541	0.613 - 2.3	Natural occurrence from soil leaching
Bromochloroacetic acid (ppb)	1/19	3.52	3.11	2.7 - 3.52	Unavailable
Bronodichloroacetic acid (ppb)	1/19	5.42	4.88	4.34 - 5.42	Unavailable
Chlorodibromoacetic Acid (ppb)	1/19	1.49	1.335	1.18 - 1.49	Unavailable
Dibromoacetic acid (ppb)	1/19	0.838	0.734	0.63 - 0.838	Unavailable
Dichloroacetic acid (ppb)	1/19	7.85	6.98	6.11 - 7.85	Unavailable
Trichloroacetic acid (ppb)	1/19	9.31	8.335	7.36 - 9.31	Unavailable



Drinking Water Quality Report-Meredith Manor Service Area 2019



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 (PWS #3590823) is obtained from ground water wells, aerated to remove hydrogen sulfide, chlorinated for disinfection, orthopolyphosphate 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 2019, 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.

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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. 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.



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 point, depending on the sampling frequency.

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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) Utilities Inc Sanlando	02/17	N	2.3	0.7 - 2.3	0	5	Erosion of natural deposits
Gross Alpha Emitters (pCi/L) Utilities Inc Sanlando	02/17	N	1.4	ND - 1.4	0	15	Erosion of natural deposits

				Inorganic Contan	ninants		
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) Utilities Inc Sanlando	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) Utilities Inc Sanlando	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 quarerly, 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 individaul samples results (lowest to highest for all monitoring location

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)			2 20 *	0.05 2.05	******	14001 4.0	West of the control o		
Seminole County	01/19 - 12/19	N	2.38 *	0.86 - 3.86	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes		
Utilities Inc - Sanlando	01/19 - 12/19	N	2.40	0.8 - 3.4					
Haloacetic Acids (five)							<u> </u>		
(HAA5) (ppb)					N/A	MCL = 60	By-product of drinking water disinfection		
Seminole County	07/2019	N	14.98 **	14.98	IN/A	IVICE - 00	by-product of drillking water distillection		
Utilities Inc - Sanlando	08/2019	N	23.90**	13.2 - 23.90					
Total Trihalomethanes							·		
(TTHM) (ppb)					21/2	MCI - 00	Decreased out of defections and defect out on		
Seminole County	07/2019	N	32.02 **	32.02	N/A	MCL = 80	By-product of drinking water disinfection		
Utilities Inc - Sanlando	08/2019	N	50.40**	18.0 - 50.4					
	Lond and Conney (Top Water)								

Lead and Copper (Tap Water) Date of Number of sampling Contaminant and Unit of **AL Violation** 90th Percentile Sampling sites exceeding the MCLG AL Likely Source of Contamination Measurement Y/N Result (mo/yr) AL Copper (tap water) (ppm) Corrosion of household plumbing systems; erosion of natural 08/18 Ν 0.083 0

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 occurence data used by EPA in regulatory determinations. If you would like more information on the EPA's Unregulated Contaminants Monitoring Rule, please and the Safe Drinking Water Hotline at (800) 425-42791

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	Maximum Level	Average Level	Range of Results	Likely Source of Contamination
Total Organic Carbon (ppb)	1/19	1160	404.545	ND - 1160	Naturally present in the environment
Bromide (ppb)	1/19	51.2	34.736	26 - 51.2	Naturally present in the environment
Manganese (ppb)	1/19	2.3	1.541	0.613 - 2.3	Natural occurrence from soil leaching
Bromochloroacetic acid (ppb)	1/19	3.52	3.11	2.7 - 3.52	Unavailable
Bronodichloroacetic acid (ppb)	1/19	5.42	4.88	4.34 - 5.42	Unavailable
Chlorodibromoacetic Acid (ppb)	1/19	1.49	1.335	1.18 - 1.49	Unavailable
Dibromoacetic acid (ppb)	1/19	0.838	0.734	0.63 - 0.838	Unavailable
Dichloroacetic acid (ppb)	1/19	7.85	6.98	6.11 - 7.85	Unavailable
Trichloroacetic acid (ppb)	1/19	9.31	8.335	7.36 - 9.31	Unavailable

deposits; leaching from wood preservatives



Drinking Water Quality Report-Northeast Service Area 2019



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 (PWS #3590473) 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, 2019. Data obtained before January 1, 2019 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 2019, 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 a low 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.



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.







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.



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)	02/19	N	0.3	0.3	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)	01/19-12/19	N	0.00	0.00 - 0.00	MCLG = 0	MCL = 10	By-product of drinking water disinfection
Chlorine (ppm)	01/19-12/19	N	1.138	0.31-1.76	MRDLG=4	MRDL=4	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	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)	11/2019	N	19.08 *	12.45 - 19.08	NA	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb)	11/2019	N	39.74 *	34.27 - 39.74	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)	07/19 - 08/19	N	0.79	2	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	07/19 - 08/19	N	1.5	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits



Drinking Water Quality Report-Northwest Service Area 2019



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 Northwest Service Area (PWS #3594107) is obtained from ground water wells. The water is treated with ion exchange, and ozone. It 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, 2019. Data obtained before January 1, 2019, 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 2019, 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.

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.

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

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



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 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)	02/19	N	0.45	0.45	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)	01/19-12/19	N	1.308	0.53-1.87	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Bromate (ppb)	01/19-12/19	N	0.000	0.0-0.0	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.

** 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 (HAA5) (ppb)	01/19-12/19	N	16.8525*	9.30-19.09	N/A	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb)	01/19-12/19	N	72.4725**	37.56-110.13	N/A	MCL = 80	By-product of drinking water disinfection

Two (2) samples during 2019 had a TTHM result of 91.44, and 110.13 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 2019	2nd Quarter 2019	3rd Quarter 2019	4th Quarter 2019
NW - 79 4965 SR 46. Quarterly Results	37.56	72.11	110.13	69.99
NW - 79 4965 SR 46. LRAA	47.6950	56.1925	69.2250	72.4475
NW - 64 1924 Bridgewater Dr. Quarterly Results	58.59	65.77	57.90	91.44
NW - 64 1924 Bridgewater Dr. LRAA	72.4725	71.8600	64.1650	68.4250

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 2019



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 Southeast Service Area (PWS #3590571) is obtained from ground water wells. The water is ozonated, filtered with granular activated carbon, chlorinated for disinfection, 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.



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Source Water Assessment Plan

In 2019, 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 low 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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- (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.
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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.



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.









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 ($\mu g/I$): one part by weight of analyte to 1 billion parts by weight of the water sample. Parts per million (ppm) or Milligrams per liter (m g/I): 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.



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.

r									
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)	2/19	N	0.56	0.10-0.56	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)	01/19-12/19	N	1.215	0.28 - 1.93	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Bromate (ppb)	01/19-12/19	N	0.00	0.0-0.0	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 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 (HAA5) (ppb)	01/19-12/19	N	27.9950**	15.41-32.72	NA	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb)	01/19-12/19	N	67.9900**	38.13-88.20	NA	MCL = 80	By-product of drinking water disinfection

One (1) sample during 2019 had a TTHM result of 88.20 ppb, which exceeded 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 2019	2nd Quarter 2019	3rd Quarter 2019	4th Quarter 2019
SE - 126 1104 Citrus Oaks Run. Quarterly Results	38.13	47.05	88.20	56.24
SE - 126 1104 Citrus Oaks Run. LRAA	50.0325	42.6125	55.5175	57.4050

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	CorrosionA40:J46 of household plumbing systems, erosion of natural deposits		

^{*} 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.



Drinking Water Quality Report-Southwest Service Area 2019



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 (PWS #3590785) is obtained from ground water wells and is chlorinated for disinfection 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, 2019. Data obtained before January 1, 2019, 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 2019, 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 low 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.



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.







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

Parts per billion (ppb) or Micrograms per liter ($\mu g/I$): 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.



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
Nitrate (as Nitrogen) (ppm)	02/19	N	0.46	0.46	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
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)	01/19-12/19	N	1.365*	0.41-1.93	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb)	01/19	N	13.57**	11.28-13.57	N/A	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb)	01/19	N	31.80**	25.23-31.80	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

The Fourth Unregulated Contaminant Monitoring Rule (UCMR4)

urpose: 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). Northeas'
Regional Water Treatment Plant has been monitoring these unregulated contaminants as part of a study to help the US Environmental Protection Agency determines 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 Hotling at (2001) 426-4781

information on the EPA's offregulated Contaminants Monitoring Rule, please can the Sale Drinking Water Hotilile at (800) 426-4791							
Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	Maximum Level	Average Level	Range of Results	Likely Source of Contamination		
HAA5 (ppb)	05/2019 11/2019	12.934	11.52	9.706 -12.934	By-product of drinking water disinfection		
HAA6Br (ppb)	05/2019 11/2019	5.82	5.074	4.171 -5.82	By-product of drinking water disinfection		
HAA9 (ppb)	05/2019 11/2019	18.034	16.002	13.289 -18.034	By-product of drinking water disinfection		
Bromide (ppb)	05/2019 11/2019	27.067	65.1605	25.254 -27.067	By-product of drinking water disinfection		
Manganese (ppb)	05/2019 11/2019	0.868	0.826	0.784 -0.868	By-product of drinking water disinfection		



Drinking Water Quality Report-Sun Shadows Consecutive Service Area 2019



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 (PWS #3594216) is obtained from ground water wells which are aerated to remove hydrogen sulfide, filtered with granular activated carbon, chlorinated for disinfection, and orthopolyphosphate 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.



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, 2019. Data obtained before January 1, 2019, 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 2019, 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 with low 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.



Water Quality Parameters

The City of Casselberry and the Florida Department of Environmental Protection (FDEP) have a set of Water Quality Parameters established for the City's drinking water system that allow the City to more efficiently monitor the drinking water system for its potential to corrode lead and copper pipes. From May 8 to June 5, 2019, the alkalinity fell below the established range of 90-150 mg/L CaCO3 equivalent, with the lowest recorded value being 82 mg/L CaCO3 equivalent, resulting in a violation of the City's Water Quality Parameters with FDEP. Alkalinity levels outside the established range can impact the effectiveness of the corrosion control additive the City uses to prevent metals such as lead and copper from plumbing, household fixtures, or older service lines from entering into the water distribution system via pipe corrosion. It is possible that during the period of lowered alkalinity, trace amounts of lead and copper from house-hold fixtures and plumbing may have corroded into the drinking water. It is unknown how much, if any, may have corroded, but levels were not such that it would be considered an emergency. No action was needed to be taken by consumers and no alternative water supplies were needed. However, the City is in the process of developing an alkalinity study to determine whether the established Water Quality Parameters need to be adjusted.

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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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.



Terms and Abbreviations (Continued)

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 ($\mu g/I$): 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/I): 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.



Sunshadows Service Area WATER QUALITY RESULTS

Sun Shadows Consecutive Water System - PWS ID# 3594216

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) City of Casselberry	05/17	N	0.02	0.009 - 0.017	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits			
Fluoride (ppm) City of Casselberry	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) City of Casselberry	02/19	N	0.23	ND - 0.23	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits			
Sodium (ppm) City of Casselberry	05/17	N	13	8.9 - 13.0	N/A	160	Salt water intrusion, leaching from soil			

Stage 2 Disinfectants/Disinfection By-Products

* For Chlorine, the level detected is the highest running annual average (RAA), computed quarerly, 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 location

*** 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) Seminole County City of Casselberry	01/19 - 12/19 2019	N N	1.09 * 1.37	0.31 - 1.60 0.35 - 2.2	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (five) (HAA5) (ppb) Seminole County City of Casselberry	02/19 - 11/19 01/19 - 12/19	N N	42.01 ** 29.39**	24.85 - 42.01 14.24 - 29.39	NA	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb) Seminole County City of Casselberry	02/19 - 11/19 02/19 - 11/19	N N	69.37*** 67.31**	53.19 - 88.05*** 32.30 - 67.31	NA	MCL = 80	By-product of drinking water disinfection

One (1) sample during 2019 had a TTHM result of 80.05, 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 2019	2nd Quarter 2019	3rd Quarter 2019	4th Quarter 2019
Site 1 ** SS - 4 Sunbranch Ln Quarterly				
Results	61.68	88.05	68.35	59.41
Site 1 ** SS - 4 Sunbranch Ln LRAA				
	60.00	64.025	67.3225	69.3725

*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) Seminole County City of Casselberry	08/18 07/17	N N	0.36 0.23	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives		
Lead (tap water) (ppb) City of Casselberry	07/17	N	1.5	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits		