


SEMINOLE COUNTY
FLORIDA'S NATURAL CHOICE

Seminole County
**Annual Drinking Water
Quality Report 2016**



Annual Drinking Water Quality Report-2016

Seminole County Environmental Services is pleased to present you with the 2016 Annual Drinking Water Quality Report. This report is designed to inform you about the quality of water and services that we deliver to you every day. The water quality results on these reports shows the commitment and teamwork of our certified water operators. 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 proud to share this report, which is based on water quality testing through December 2016; you will find that we supply water that meets or exceeds all federal and state water quality regulations.

Our Water Quality Report format has been changed and our now being offered 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 attached 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,

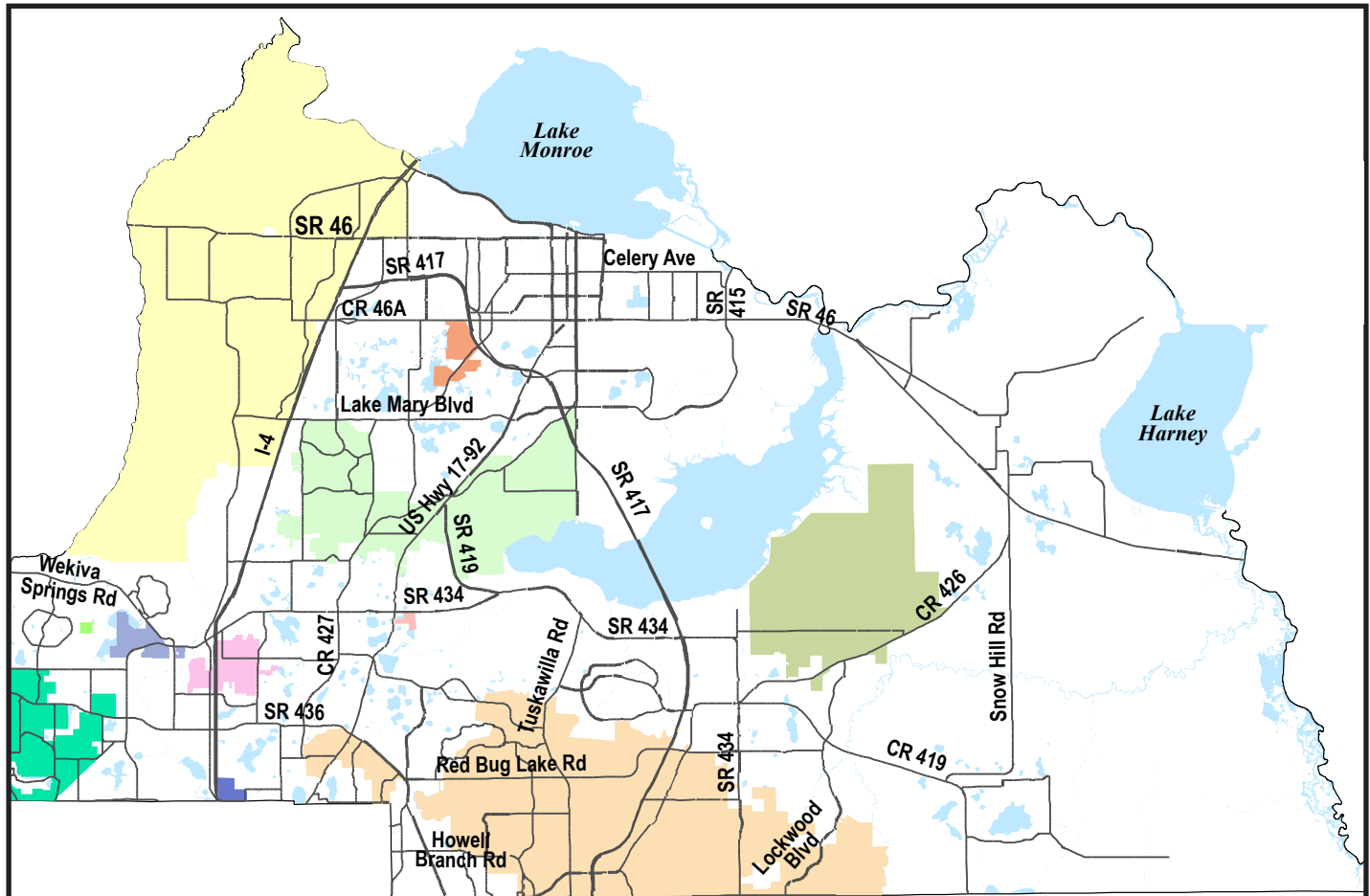
Elisa Williams
Chief Compliance Operator
Water Operations

Preparedness Tip: Register your cell phone for Seminole County's Reverse 9-1-1 Notification System



"Nearly one-half of American homes use only mobile phones and have dropped landlines, according to [a recent report](#) by the Centers for Disease Control. If you replaced your old landline with a cellular phone, Seminole County wants you to "get the call" in an emergency by making sure you have registered your cellphone to receive alerts during an emergency such as "Boil Water Notices" and "Severe Weather Conditions". Please visit and complete your registration at: <https://seminolecountyfl.onthealert.com/Terms/Index/?ReturnUrl=%2f>












Map of Water Service Areas



Legend

— Major Roads

Seminole County Utilities - Water Service Areas

	APPLE VALLEY		LAKE BRANTLEY		SOUTHEAST
	BLACK HAMMOCK		MEREDITH MANOR		SOUTHWEST
	CHASE GROVES		NORTHEAST		SUNSHADOWS
	DRUID HILLS		NORTHWEST		

Drinking Water Quality Report-Apple Valley Service Area 2016



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



Seminole County Environmental Services Department routinely monitors for contaminants in your drinking water according to Federal and State laws, rules and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2016. Data obtained before January 1, 2016, 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 2016, 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. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

EPA Would Like You to Know

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

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

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

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).


If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Seminole County Environmental Services is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.



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

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TWO DAYS PER WEEK



Terms and Abbreviations

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

Maximum Contaminant Level or MCL: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal or MCLG: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum residual disinfectant level or MRDL: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum residual disinfectant level goal or MRDLG: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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

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

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

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

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

Apple Valley Service Area

WATER QUALITY RESULTS

Apple Valley Consecutive Water System - PWS ID# 3590039							
Inorganic Contaminants							
Results in the Level Detected column for radioactive contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.							
Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Arsenic (ppb) <i>City of Altamonte Springs</i>	03/14	N	0.5	ND - 0.5	0	10	Erosion of natural deposits; run off from orchards; run off from glass and electronics production waste
Barium (ppm) <i>City of Altamonte Springs</i>	03/14	N	0.0071	0.0070 - 0.0071	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium (ppb) <i>City of Altamonte Springs</i>	03/14	N	0.2	ND - 0.2	4	4	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries
Fluoride (ppm) <i>City of Altamonte Springs</i>	03/14	N	0.74	0.67 - 0.74	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum level of 0.7 ppm
Lead (point of entry) (ppb) <i>City of Altamonte Springs</i>	03/14	N	0.35	0.22 - 0.35	NA	15	Residue from man-made pollution such as auto emissions and paint; lead pipe, casing, and solder
Nickel (ppb) <i>City of Altamonte Springs</i>	03/14	N	0.89	0.78 - 0.89	NA	100	Pollution from mining and refining operations; Natural occurrence in soil
Selenium (ppb) <i>City of Altamonte Springs</i>	03/14	N	2.37	1.21 - 2.37	50	50	Discharge from petroleum and metal refineries, erosion of natural deposits; discharge from mines
Sodium (ppm) <i>City of Altamonte Springs</i>	03/14	N	12	9.0 - 12.0	N/A	160	Salt water intrusion, leaching from soil
Thallium (ppb) <i>City of Altamonte Springs</i>	03/14	N	0.42	ND - 0.42	0.5	2	Leaching from ore-processing sites, discharge from electronics, glass and drug factories
Synthetic Organic Contaminants including Pesticides and Herbicides							
Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Dalapon (ppb) <i>City of Altamonte Springs</i>	03/14	N	1.2	ND - 1.2	200	200	Runoff from herbicide used on rights of way
Di(2-ethylhexyl)phthalate (ppb) <i>City of Altamonte Springs</i>	03/14	N	0.44	ND - 0.44	0	6	Discharge from rubber and chemical factories
Stage 2 Disinfectants/Disinfection By-Products							
* For Bromate and Chlorine, the level detected is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. The Range of Results is the range of results of all the individual samples collected during the past year.							
** For Haloacetic Acids (HAA5) or Total Trihalomethanes (TTHM), the level detected is the highest detected level at any sampling point. Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations.							
*** For Haloacetic Acids (HAA5) or Total Trihalomethanes (TTHM), the level detected is the highest locational running annual average (LRAA). Range of Results is the range of individual samples results (lowest to highest) for all monitoring locations.							
Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chlorine (ppm) <i>Seminole County</i> <i>City of Altamonte Springs</i>	01/16 - 12/16 2016	N N	1.0375 * 1.0	0.49 - 1.37 0.4 - 2.2	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (five) (HAA5) (ppb) <i>Seminole County</i> <i>City of Altamonte Springs</i>	07/2016 2016	N N	25.78 ** 33.400 ***	22.17 - 25.78 8.7 - 38.6	NA	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb) <i>Seminole County</i> <i>City of Altamonte Springs</i>	07/2016 2016	N N	54.73 ** 60.600 ***	46.07 - 54.73 13.5 - 62.0	NA	MCL = 80	By-product of drinking water disinfection
Lead and Copper (Tap Water)							
Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	AL Violation Y/N	90th Percentile Result	Number of sampling sites exceeding the AL	MCLG	AL	Likely Source of Contamination
Copper (tap water) (ppm) <i>Seminole County</i>	07/15	N	0.18	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb) <i>Seminole County</i>	07/15	N	0.61	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits

Drinking Water Quality Report-Black Hammock Service Area 2016



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



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Source Water Assessment Plan

In 2016, 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. 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.
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Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).


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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.
- Maximum Contaminant Level Goal or MCLG:** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- Maximum residual disinfectant level or MRDL:** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- Maximum residual disinfectant level goal or MRDLG:** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- “ND”** means not detected and indicates that the substance was not found by laboratory analysis.
- Parts per billion (ppb) or Micrograms per liter (µg/l):** one part by weight of analyte to 1 billion parts by weight of the water sample.
- Parts per million (ppm) or Milligrams per liter (mg/l):** one part by weight of analyte to 1 million parts by weight of the water sample.
- Picocurie per liter (pCi/L):** measure of the radioactivity in water.
- Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

Black Hammock Service Area WATER QUALITY RESULTS

Black Hammock Consecutive Water System (PWS ID# 3594186)							
Inorganic Contaminants							
Results in the Level Detected column for radioactive contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.							
Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Barium (ppm) <i>City of Oviedo</i>	03/14	N	0.013	0.013	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm) <i>City of Oviedo</i>	03/14	N	0.13	0.13	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum level of 0.7 ppm
Sodium (ppm) <i>City of Oviedo</i>	03/14	N	38.0	38	NA	160	Salt water intrusion, leaching from soil
Nitrate (as Nitrogen) (ppm) <i>City of Oviedo</i>	05/16	N	0.15	0.15	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Stage 1 Disinfectant/Disinfection By-Product							
For bromate, chloramines, or chlorine, the level detected is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. The range of results is the range of results of all individual samples collected during the past year.							
Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chloramines (ppm) <i>Seminole County City of Oviedo</i>	01/16 - 12/16 01/16 - 12/16	N N	1.066 (annual ave.) 2.12 (Average)	0.60 - 1.89 1.03 - 3.0	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Stage 2 Disinfectants/Disinfection By-Products							
* For Haloacetic Acids (HAAs) or Total Trihalomethanes (TTHM), the level detected is the highest detected level at any sampling point. Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations.							
** For Haloacetic Acids (HAAs) or Total Trihalomethanes (TTHM), the level detected is the highest locational running annual average (LRAA). Range of Results is the range of individual samples results (lowest to highest) for all monitoring locations.							
Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Haloacetic Acids (five) (HAAs) (ppb) <i>Seminole County City of Oviedo</i>	08/11/16 05/18 /16	N N	11.27 * 5.57	10.61 - 11.27 3.19 - 5.57	NA	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb) <i>Seminole County City of Oviedo</i>	08/11/16 05/18 /16	N N	16.49 * 17.54	16.14 - 16.49 17.25 - 17.54	NA	MCL = 80	By-product of drinking water disinfection
Lead and Copper (Tap Water)							
Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	AL Violation Y/N	90th Percentile Result	Number of sampling sites exceeding the AL	MCLG	AL	Likely Source of Contamination
Copper (tap water) (ppm) <i>Seminole County</i>	09/15	N	0.37	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb) <i>Seminole County</i>	09/15	N	3	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits

Drinking Water Quality Report-Chase Groves Consecutive Service Area 2016



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Source Water Assessment Plan

In 2016, 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. 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.
- Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

Chase Groves Service Area

WATER QUALITY RESULTS

Chase Groves Consecutive Water System - PWS ID# 3594214

Radioactive Contaminants

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

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Radium 226 + 228 or combined radium (pCi/L) <i>City of Sanford</i>	02/16-12/16	N	0.969	0 - 0.969	0	5	Erosion of natural deposits

Inorganic Contaminants

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Barium (ppm) <i>City of Sanford</i>	06/14-10/14	N	0.017	0.010 - 0.017	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm) <i>City of Sanford</i>	06/14-10/14	N	0.75	0.63 - 0.75	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum level of 0.7 ppm
Nitrate (as Nitrogen) (ppm) <i>City of Sanford</i>	04/16	N	0.21	0.17 - 0.21	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm) <i>City of Sanford</i>	06/14-10/14	N	26	20.7 - 26.0	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
Bromate (ppb) <i>City of Sanford</i>	01/16-12/16	N	9.55	0 - 42.0	MCLG = 0	MCL = 10	By-product of drinking water disinfection
Chlorine (ppm) <i>Seminole County</i> <i>City of Sanford</i>	01/16 - 12/16 01/16 - 12/16	N N	1.1608 1.2	0.35 - 2.19 0.5 - 2.3	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes

Stage 2 Disinfectants/Disinfection By-Products

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

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

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Haloacetic Acids (five) (HAAs) (ppb) <i>Seminole County</i> <i>City of Sanford</i>	01/16 - 12/16 02/17 - 11/16	N N	21.8075 ** 16.60 **	8.37 - 25.82 4.36 - 23.77	NA	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb) <i>Seminole County</i> <i>City of Sanford</i>	01/16 - 12/16 02/17 - 11/16	N N	77.5850 ** 64.33 **	43.96 - 76.28 20.93 - 62.70	NA	MCL = 80	By-product of drinking water disinfection

Lead and Copper (Tap Water)

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	AL Violation Y/N	90th Percentile Result	Number of sampling sites exceeding the AL	MCLG	AL	Likely Source of Contamination
Copper (tap water) (ppm) <i>Seminole County</i>	08/2014	N	0.12	1	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb) <i>Seminole County</i>	08/2014	N	1.30	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits

Drinking Water Quality Report-Druid Hills Consecutive Service Area 2016



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



Seminole County Environmental Services Department routinely monitors for contaminants in your drinking water according to Federal and State laws, rules and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2016. Data obtained before January 1, 2016, 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 2016, the Department of Environmental Protection performed a Source Water Assessment on our system. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of our wells. There are no (0) potential sources of contamination identified for this system. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

EPA Would Like You to Know

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

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

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

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).


If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Seminole County Environmental Services is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.



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

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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.

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

Druid Hills Service Area

WATER QUALITY RESULTS

Druid Hills Water System - PWS ID# 3590111

Radioactive Contaminants							
Results in the Level Detected column for radioactive contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.							
Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Radium 226 + 228 or combined radium (pCi/L)	07/15	N	0.9	0.9	0.9	5	Erosion of natural deposits
Inorganic Contaminants							
Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Antimony (ppb)	07/15	N	0.24	0.24	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic (ppb)	07/15	N	0.39	0.39	N/A	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	07/15	N	0.0048	0.0048	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	07/15	N	0.24	0.24	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)	01/16	N	0.051	0.051	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) (ppm)	01/16	N	0.053	0.053	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nickel (ppb)	07/15	N	2.9	2.9	N/A	100	Pollution from mining and refining operations; Natural occurrence in soil
Selenium (ppb)	07/15	N	2.9	2.9	50	50	Discharge from petroleum and metal refineries, erosion of natural deposits; discharge from mines
Sodium (ppm)	07/15	N	15	15	N/A	160	Salt water intrusion, leaching from soil
Stage 2 Disinfectants/Disinfection By-Products							
* For Bromate and Chlorine, the level detected is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. The Range of Results is the range of results of all the individual samples collected during the past year.							
** For Haloacetic Acids (HAAS) or Total Trihalomethanes (TTHM), the level detected is the highest detected level at any sampling point. Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations.							
*** For Haloacetic Acids (HAAS) or Total Trihalomethanes (TTHM), the level detected is the highest) locational running annual average (LRAA). Range of Results is the range of individual samples results (lowest to highest for all monitoring locations.							
Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chlorine (ppm)	01/16-12/16	N	1.0708 (annual average)	0.62 - 1.58	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (five) (HAAS) (ppb)	07/16	N	28.99 ***	26.97 - 34.41	N/A	MCL = 60	By-product of drinking water disinfection
TTHM [Total trihalomethanes] (ppb)	07/16	N	59.00 ***	51.57 - 63.79	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)	07/2015	N	0.3	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	07/2015	N	0.61	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits

Drinking Water Quality Report-Lake Brantley Consecutive Service Area 2016



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



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Source Water Assessment Plan

In 2016, 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. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

EPA Would Like You to Know

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- (B) *Inorganic contaminants*, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- (C) *Pesticides and herbicides*, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- (D) *Organic chemical contaminants*, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
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In order to ensure that tap water is safe to drink, the EPA prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

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Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).


If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Seminole County Environmental Services is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.



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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.
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- “ND”** means not detected and indicates that the substance was not found by laboratory analysis.
- Parts per billion (ppb) or Micrograms per liter (µg/l):** one part by weight of analyte to 1 billion parts by weight of the water sample.
- Parts per million (ppm) or Milligrams per liter (mg/l):** one part by weight of analyte to 1 million parts by weight of the water sample.
- Picocurie per liter (pCi/L):** measure of the radioactivity in water.
- Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

Lake Brantley Service Area WATER QUALITY RESULTS

Lake Brantley Consecutive Water System - PWS ID# 3590685							
Radioactive Contaminants							
Results in the Level Detected column for radioactive contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.							
Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Alpha emitters (pCi/L) <i>Utilities Inc. - Sanlando</i>	03/14	N	2	1.1 - 2.0	0	15	Erosion of natural deposits
Radium 226 + 228 or combined radium (pCi/L) <i>Utilities Inc. - Sanlando</i>	03/14	N	3.2	0.8 - 3.2	0	5	Erosion of natural deposits
Inorganic Contaminants							
Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Barium (ppm) <i>Utilities Inc. - Sanlando</i>	03/14	N	0.0391	0.0056 - 0.0391	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm) <i>Utilities Inc. - Sanlando</i>	03/14	N	0.201	0 - 0.201	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum level of 0.7 ppm
Sodium (ppm) <i>Utilities Inc. - Sanlando</i>	03/14	N	14.9	8.82 - 14.9	N/A	160	Salt water intrusion, leaching from soil
Stage 2 Disinfectants/Disinfection By-Products							
* For Bromate and Chlorine, the level detected is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. The Range of Results is the range of results of all the individual samples collected during the past year.							
** For Haloacetic Acids (HAAs) or Total Trihalomethanes (TTHM), the level detected is the highest detected level at any sampling point. Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations.							
*** For Haloacetic Acids (HAAs) or Total Trihalomethanes (TTHM), the level detected is the highest) locational running annual average (LRAA). Range of Results is the range of individual samples results (lowest to highest) for all monitoring locations.							
Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chlorine (ppm) <i>Seminole County Utilities Inc - Sanlando</i>	01/16 - 12/16 01/16 - 12/16	N N	1.6016 2.1	0.30 - 2.66 0.6 - 3.5	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (five) (HAAs) (ppb) <i>Seminole County Utilities Inc - Sanlando</i>	07/2016 02/16 - 11/16	N N	14.03 ** 45.9 ***	14.03 13.3 - 35.3	N/A	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb) <i>Seminole County Utilities Inc - Sanlando</i>	07/2016 02/16 - 11/16	N N	23.56 ** 47.8 ***	23.56 14.8 - 41.8	N/A	MCL = 80	By-product of drinking water disinfection
Lead and Copper (Tap Water)							
Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	AL Violation Y/N	90th Percentile Result	Number of sampling sites exceeding the AL	MCLG	AL	Likely Source of Contamination
Copper (tap water) (ppm) <i>Seminole County</i>	08/15	N	0.05	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb) <i>Seminole County</i>	08/15	N	2.1	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits

Drinking Water Quality Report-Meredith Manor Service Area 2016



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



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, 2016. Data obtained before January 1, 2016, 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 2016, 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. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

EPA Would Like You to Know

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

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

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

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).


If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Seminole County Environmental Services is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.



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



Terms and Abbreviations

- Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
- Maximum Contaminant Level or MCL:** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- Maximum Contaminant Level Goal or MCLG:** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- Maximum residual disinfectant level or MRDL:** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- Maximum residual disinfectant level goal or MRDLG:** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- “ND”** means not detected and indicates that the substance was not found by laboratory analysis.
- Parts per billion (ppb) or Micrograms per liter (µg/l):** one part by weight of analyte to 1 billion parts by weight of the water sample.
- Parts per million (ppm) or Milligrams per liter (mg/l):** one part by weight of analyte to 1 million parts by weight of the water sample.
- Picocurie per liter (pCi/L):** measure of the radioactivity in water.
- Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

Meredith Manor Service Area WATER QUALITY RESULTS

Meredith Manor Consecutive Water System - PWS ID# 3590823

Radioactive Contaminants

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

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Alpha emitters (pCi/L) <i>Utilities Inc. - Sanlando</i>	03/14	N	2	1.1 - 2.0	0	15	Erosion of natural deposits
Radium 226 + 228 or combined radium (pCi/L) <i>Utilities Inc. - Sanlando</i>	03/14	N	3.2	0.8 - 3.2	0	5	Erosion of natural deposits

Inorganic Contaminants

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Barium (ppm) <i>Utilities Inc. - Sanlando</i>	03/14	N	0.0391	0.0056 - 0.0391	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm) <i>Utilities Inc. - Sanlando</i>	03/14	N	0.201	0 - 0.201	4	4	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum level of 0.7 ppm
Sodium (ppm) <i>Utilities Inc. - Sanlando</i>	03/14	N	14.9	8.82 - 14.9	N/A	160	Salt water intrusion, leaching from soil

Stage 2 Disinfectants/Disinfection By-Products

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

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chlorine (ppm) <i>Seminole County Utilities Inc - Sanlando</i>	01/16 - 12/16 01/16 - 12/16	N N	1.9858 2.1	0.80 - 2.96 0.6 - 3.5	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (five) (HAA5) (ppb) <i>Seminole County Utilities Inc - Sanlando</i>	07/2016 02/16 - 11/16	N N	24.05 ** 45.9 ***	24.05 13.3 - 35.3	N/A	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb) <i>Seminole County Utilities Inc - Sanlando</i>	07/2016 02/16 - 11/16	N N	39.53 ** 47.8 ***	39.53 14.8 - 41.8	N/A	MCL = 80	By-product of drinking water disinfection

Lead and Copper (Tap Water)

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	AL Violation Y/N	90th Percentile Result	Number of sampling sites exceeding the AL	MCLG	AL	Likely Source of Contamination
Copper (tap water) (ppm) <i>Seminole County</i>	08/15	N	0.19	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb) <i>Seminole County</i>	08/15	N	0.61	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits

Drinking Water Quality Report Northeast Service Area 2016



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



Seminole County Environmental Services Department routinely monitors for contaminants in your drinking water according to Federal and State laws, rules and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2016. Data obtained before January 1, 2016, 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 2016, 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 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.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).


If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Seminole County Environmental Services is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.



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Terms and Abbreviations

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

Maximum Contaminant Level or MCL: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal or MCLG: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum residual disinfectant level or MRDL: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum residual disinfectant level goal or MRDLG: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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

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

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

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

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

Northeast Service Area

WATER QUALITY RESULTS

Northeast Water System - PWS ID# 3590473							
Radioactive Contaminants							
Results in the Level Detected column for radioactive contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.							
Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Radium 226 (pCi/L)	02/14	N	0.804	0.804	0	5	Erosion of natural deposits
Inorganic Contaminants							
Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Barium (ppm)	02/14	N	0.0092	0.0080 - 0.0092	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	08/16	N	0.48	0.48	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)	01/16	N	0.28	0.25 - 0.28	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) (ppm)	01/16	N	0.053	0.053	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	02/14	N	16.1	14.7 - 16.1	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)	01/16-12/16	N	0.22 (annual average)	0 - 2.60	MCLG = 0	MCL = 10	By-product of drinking water disinfection
Chlorine (ppm)	01/16-12/16	N	1.355 (annual average)	0.40 - 1.87	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	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Haloacetic Acids (five) (HAAS) (ppb)	11/2016	N	22.37 *	17.20 - 22.37	NA	MCL = 60	By-product of drinking water disinfection
TTHM [Total Trihalomethanes] (ppb)	11/2016	N	41.04 *	27.71 - 41.04	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)	07/2016	N	0.76	2	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	07/2016	N	2.40	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits

Drinking Water Quality Report-Northwest Service Area 2016



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 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, 2016. Data obtained before January 1, 2016, 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 2016, 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 with seven (7) low and two (2) 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 storm water 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 storm water 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 storm water runoff, and septic systems.
- (E) *Radioactive contaminants*, which can be naturally occurring or be the result of oil and gas production and mining activities.

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

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-426-4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).


If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Seminole County Environmental Services is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.



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Terms and Abbreviations

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- Parts per billion (ppb) or Micrograms per liter (µg/l):** one part by weight of analyte to 1 billion parts by weight of the water sample.
- Parts per million (ppm) or Milligrams per liter (mg/l):** one part by weight of analyte to 1 million parts by weight of the water sample.
- Picocurie per liter (pCi/L):** measure of the radioactivity in water.
- Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

Northwest Service Area

WATER QUALITY RESULTS

Northwest Water System - PWS ID# 3594107

Inorganic Contaminants

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

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Arsenic (ppb)	02/14	N	0.5	0.5	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	02/14	N	0.011	0.0078 - 0.011	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	02/14	N	0.12	0.088 - 0.12	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)	02/14	N	0.5	0.5	MCLG = 0	15	Residue from man-made pollution such as auto emissions and paint; lead pipe, casing, and solder
Nickel (ppb)	02/14	N	2.5	2.5	N/A	100	Pollution from mining and refining operations. Natural occurrence in soil
Nitrate (as Nitrogen) (ppm)	01/16	N	0.051	0.051	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) (ppm)	01/16	N	0.053	0.053	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium (ppb)	02/14	N	0.5	0.5	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Sodium (ppm)	02/14	N	24.5	17.4 - 24.5	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)	01/16-12/16	N	1.41	0.70 - 2.25	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Bromate (ppb)	01/16-12/16	N	4.925	0 - 12.00	MCLG = 0	MCL = 10	By-product of drinking water disinfection

Stage 2 Disinfectants/Disinfection By-Products

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

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

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Haloacetic Acids (five) (HAAs) (ppb)	01/16-12/16	N	18.0325 **	5.65 - 16.65	N/A	MCL = 60	By-product of drinking water disinfection
TTHM [Total trihalomethanes] (ppb)	01/16-12/16	N	71.3000**	25.19 - 79.38	N/A	MCL = 80	By-product of drinking water disinfection

Lead and Copper (Tap Water)

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	AL Violation Y/N	90th Percentile Result	Number of sampling sites exceeding the AL	MCLG	AL	Likely Source of Contamination
Copper (tap water) (ppm)	08/2014	N	0.48	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	08/2014	N	1.40	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits

Drinking Water Quality Report Southeast Service Area 2016



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 is obtained from ground water wells. The water is ozonated, filtered with granular activated carbon and 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.



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Source Water Assessment Plan

In 2016, the Department of Environmental Protection performed a Source Water Assessment on our system. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of our wells. There are two (2) potential sources of contamination identified for this system with moderate susceptibility levels. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

EPA Would Like You to Know

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

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

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

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline at 1-800-

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).


If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Seminole County Environmental Services is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.



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Terms and Abbreviations

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

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Maximum Contaminant Level Goal or MCLG: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum residual disinfectant level or MRDL: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum residual disinfectant level goal or MRDLG: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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

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

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

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

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

Southeast Service Area

WATER QUALITY RESULTS

Southeast Water System - PWS ID# 3590571

Microbial Contaminants							
Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Highest Monthly Percentage /Number	MCLG	MCL	Likely Source of Contamination	
Total Coliform Bacteria <i>(positive samples until March 31, 2016)</i>	02/11/16	N	1.4 %	0	For systems collecting at least 40 samples per month: presence of coliform bacteria in >5% of monthly samples.	Naturally present in the environment	
Inorganic Contaminants							
Results in the Level Detected column for radioactive contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.							
Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Arsenic (ppb)	02/14	N	0.5	0.5	0	10	Erosion of natural deposits; runoff from orchards; runoff from glass and electronics production wastes
Barium (ppm)	02/14	N	0.0097	0.0066 - 0.0097	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	08/16	N	0.49	0.49	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)	01/16	N	0.28	0.051 - 0.28	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) (ppm)	01/16	N	0.053	0.053	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Selenium (ppb)	02/14	N	0.5	0.50	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Sodium (ppm)	02/14	N	12.3	11.3 - 12.3	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)	01/16-12/16	N	1.33	0.23 - 2.50	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Bromate (ppb)	01/16-12/16	N	0.39	0 - 4.70	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 (five) (HAA5) (ppb)	01/16-12/16	N	29.8700 **	20.10 - 31.80	NA	MCL = 60	By-product of drinking water disinfection
TTHM [Total trihalomethanes] (ppb)	01/16-12/16	N	68.2675 **	48.84 - 68.19	NA	MCL = 80	By-product of drinking water disinfection
Lead and Copper (Tap Water)							
Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	AL Violation Y/N	90th Percentile Result	Number of sampling sites exceeding the AL	MCLG	AL	Likely Source of Contamination
Copper (tap water) (ppm)	08/2014	N	0.78	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	08/2014	N	1.40	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits

Drinking Water Quality Report-Southwest Service Area 2016



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



Seminole County Environmental Services Department routinely monitors for contaminants in your drinking water according to Federal and State laws, rules and regulations. Except where indicated otherwise, this report is based on the results of our monitoring for the period of January 1 to December 31, 2016. Data obtained before January 1, 2016, 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 2016, the Department of Environmental Protection performed a Source Water Assessment on our system. The assessment was conducted to provide information about any potential sources of contamination in the vicinity of our wells. There are two (2) potential sources of contamination identified for this system with moderate susceptibility levels. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

EPA Would Like You to Know

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

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Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).


If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Seminole County Environmental Services is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.



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Terms and Abbreviations

- Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
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- Picocurie per liter (pCi/L):** measure of the radioactivity in water.
- Treatment Technique (TT):** A required process intended to reduce the level of a contaminant in drinking water.

Southwest Service Area

WATER QUALITY RESULTS

Southwest Water System - PWS ID# 3590785

Inorganic Contaminants

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

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Arsenic (ppb)	02/14	N	0.5	0.5	0	10	Erosion of natural deposits, run off from glass and electronics production wastes
Barium (ppm)	02/14	N	0.0056	0.0056	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Fluoride (ppm)	02/14	N	0.18	0.18	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
Nickel (ppb)	02/14	N	2.5	2.5	N/A	100	Pollution from mining and refining operations. Natural occurrence in soil
Nitrate (as Nitrogen) (ppm)	01/16	N	0.051	0.051	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) (ppm)	01/16	N	0.053	0.053	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	02/14	N	13	13	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 (HAAs) or Total Trihalomethanes (TTHM), the level detected is the highest detected level at any sampling point. Range of Results is the range of individual sample results (lowest to highest) for all monitoring locations.

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

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chlorine (ppm)	01/16-12/16	N	1.487 *	0.58 - 2.40	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (five) (HAAs) (ppb)	01/16-12/16	N	13.60 **	10.95 - 13.60	N/A	MCL = 60	By-product of drinking water disinfection
TTHM [Total trihalomethanes] (ppb)	01/2016	N	31.13 **	23.85 - 31.13	N/A	MCL = 80	By-product of drinking water disinfection

Lead and Copper (Tap Water)

Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	AL Violation Y/N	90th Percentile Result	Number of sampling sites exceeding the AL	MCLG	AL	Likely Source of Contamination
Copper (tap water) (ppm)	08/2014	N	0.42	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	08/2014	N	5.30	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits

Drinking Water Quality Report-Sun Shadows Consecutive Service Area 2016



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



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Source Water Assessment Plan

In 2016, 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. 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

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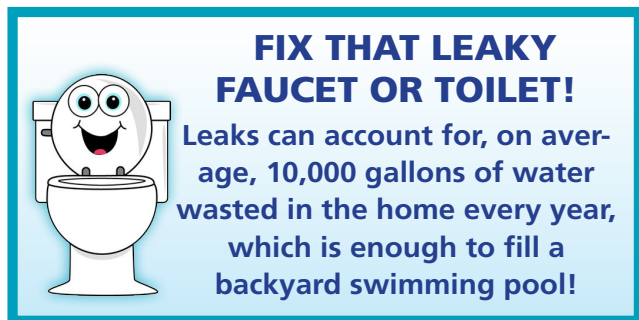
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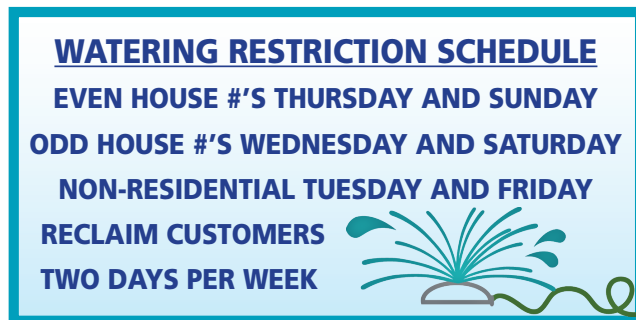
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Picocurie per liter (pCi/L): measure of the radioactivity in water.

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

Sunshadows Service Area

WATER QUALITY RESULTS

Sun Shadows Consecutive Water System - PWS ID# 3594216							
Radioactive Contaminants							
Results in the Level Detected column for radioactive contaminants, inorganic contaminants, synthetic organic contaminants including pesticides and herbicides, and volatile organic contaminants are the highest average at any of the sampling points or the highest detected level at any sampling point, depending on the sampling frequency.							
Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Alpha Emitters (pCi/L) <i>City of Casselberry</i>	05/14	N	2.5	1.0 - 2.5	0	15	Erosion of natural deposits
Radium 226 + 228 or combined radium (pCi/L) <i>City of Casselberry</i>	05/14	N	2.5	0.6 - 2.5	0	5	Erosion of natural deposits
Inorganic Contaminants							
Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Barium (ppm) <i>City of Casselberry</i>	05/14	N	0.017	0.009 - 0.017	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Cadmium (ppb) <i>City of Casselberry</i>	05/14	N	0.38	ND - 0.38	5	5	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries, runoff from waste batteries and paints
Chromium (ppb) <i>City of Casselberry</i>	05/14	N	0.6	ND - 0.6	100	100	Discharge from steel and pulp mills; erosion of natural deposits
Fluoride (ppm) <i>City of Casselberry</i>	05/14	N	0.15	0.10 - 0.15	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
Nickel (ppb) <i>City of Casselberry</i>	05/14	N	1.7	1.2 - 1.7	NA	100	Pollution from mining and refining operations. Natural occurrence in soil
Nitrate (as Nitrogen) (ppm) <i>City of Casselberry</i>	01/16	N	0.32	ND - 0.32	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) (ppm) <i>City of Casselberry</i>	01/16	N	0.26	ND - 0.26	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm) <i>City of Casselberry</i>	05/14	N	13	12.0 - 13.0	N/A	160	Salt water intrusion, leaching from soil
Stage 2 Disinfectants/Disinfection By-Products							
* For Bromate and Chlorine, the level detected is the highest running annual average (RAA), computed quarterly, of monthly averages of all samples collected. The Range of Results is the range of results of all the individual samples collected during the past year.							
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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
Chlorine (ppm) <i>Seminole County</i> <i>City of Casselberry</i>	01/16 - 12/16 01/16 - 12/16	N N	1.509 1.7	0.95 - 2.00 0.2 - 2.6	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (five) (HAA5) (ppb) <i>Seminole County</i> <i>City of Casselberry</i>	08/2016 02/16 - 11/16	N N	24.39 ** 31.93 ***	23.83 - 24.39 10.98 - 38.11	NA	MCL = 60	By-product of drinking water disinfection
Total Trihalomethanes (TTHM) (ppb) <i>Seminole County</i> <i>City of Casselberry</i>	08/2016 02/16 - 11/16	N N	68.00 ** 61.81 ***	57.80 - 68.00 36.63 - 70.93	NA	MCL = 80	By-product of drinking water disinfection
Lead and Copper (Tap Water)							
Contaminant and Unit of Measurement	Date of Sampling (mo/yr)	AL Violation Y/N	90th Percentile Result	Number of sampling sites exceeding the AL	MCLG	AL	Likely Source of Contamination
Copper (tap water) (ppm) <i>Seminole County</i>	07/15	N	0.32	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb) <i>Seminole County</i>	07/15	N	1.8	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits