

2017 WATER QUALITY REPORT

Protecting Our Water

JEA produces and delivers more than 100 million gallons of water per day to customers across the First Coast.

And we work hard to ensure that the water you receive is of the highest quality. In addition to conducting 45,000 water quality tests a year (the results of which are included in this report), JEA has launched some major initiatives designed to upgrade our water infrastructure and protect the quality of our public drinking water supply, including:



Northwest Regional Water Treatment Plant
Located near Jacksonville International Airport, this new
multimillion-dollar water treatment plant to be brought
into service during 2018 will have the capacity to produce
6 million gallons of drinking water per day for the growing
Northwest Jacksonville area.



Backflow Preventer Checkup Program

Homeowners with irrigation systems are required by law to have a device known as a backflow preventer, which prevents irrigation water from contaminating the public drinking water supply. JEA's expanded Backflow Preventer Checkup Program helps customers with residential irrigation meters comply with state environmental regulations by automatically scheduling and sending backflow service providers to test these devices, ensuring that our drinking water remains safe.

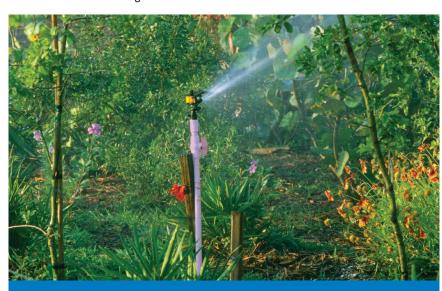
Preserving Our 'One Water'

In the past decade, the First Coast has seen tremendous population growth. While we have a sufficient water supply now, we all need to work together to ensure our water supply is sustainable for the future. Here are just a few of the innovative ways that JEA is working to preserve our "one water."

Reclaimed Water

JEA's award-winning reclaimed water program is a vital tool in our community's efforts to protect the St. Johns River and sustain the Floridan aquifer. With more than half of Florida's public water supply being used outdoors—primarily for irrigation—communities across the state began looking for ways to meet this need for irrigation water without depleting the aquifer

Reclaimed water is one solution. By filtering, disinfecting and continuously monitoring the quality of our reclaimed water, JEA is able to meet the irrigation needs of our customers while protecting the environment. In 2017, JEA produced on average 20 million gallons per day of reclaimed water-that's water that we don't have to pull from the Floridan aquifer. At the same time, the program protects the St. Johns River by reducing the amount of treated wastewater discharged into the river.



 $\label{lem:continuous} \textbf{Reclaimed water pipes are purple to distinguish them from pipes carrying drinking water.}$

Purified Water



From San Diego to Singapore, resource-conscious communities around the world are embracing new technologies that make it possible to fully reuse water. Purified water—or fully treating reclaimed water to drinking water standards—is one way to accomplish this. While purified water is already in use in other communities, JEA is taking the first steps toward exploring this concept. Working in partnership with the St. Johns River Water Management District, we've launched an R&D project that will test two leading water purification technologies at two of our water reclamation facilities. Stay tuned for future updates on this initiative.

Protect Our Water: Visit jea.com/ways_to_save for simple conservation tips we can all follow to safeguard our community's most valuable natural resource.

Protecting and Preserving our Water

Dear JEA Water Customer,

JEA is pleased to provide you with the 2017 Water Quality Report. Inside, you'll find detailed information on the quality of the water JEA provides to more than 337,000 water customers each day, and the steps we're taking to protect and preserve this precious, life-sustaining resource for future generations.

Water defines our community. From the banks of the St. Johns River to the shores of the Atlantic Ocean, water is what drew many of us to call the First Coast home. And the water we receive at our homes—for drinking, bathing, washing clothes and watering our lawns—is central to our quality of life.

At JEA, we know that providing you with high-quality water is a tremendous responsibility, and we take that responsibility very seriously. In this report, you'll view the results from the 45,000 water quality tests we perform each year to monitor our community's water, ensuring that it meets or exceeds all state and federal standards. You'll read about the upgrades we're making to our water treatment facilities to provide you with the best possible customer service. And you'll learn about the new programs we're offering and technologies we're exploring to preserve our natural resources as our community continues to grow.

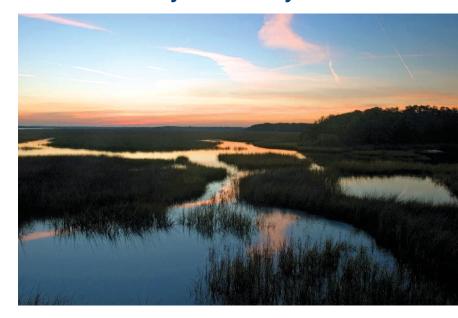
We invite you to review this information and to visit jea.com for simple conservation tips your family can use to help manage your bill and the shared resources entrusted to us. Working together, we can ensure that the one water we all depend upon and enjoy will be around for generations to come.

Sincerely

Melisia A Dylus

Melissa Dykes
President and Chief Operating Officer

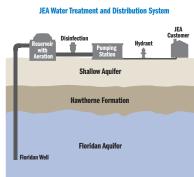
Our Community's Water System



For JEA water customers, enjoying a glass of clean, fresh water is as simple as turning on a tap. That simple act, however, is really the final step in a process that begins miles away and some 1,000 feet underground in the depths of the pristine Floridan aquifer.

The source of JEA's water, the Floridan aquifer is rated by the U.S. Geological Survey as one of the highest-quality water sources in the country — and bringing that water to hundreds of thousands

of homes each day is quite an operation. First, JEA draws water from more than 137 wells located throughout Duval, Nassau and St. Johns counties. From there, it's pumped into large reservoirs at one of our 37 water treatment plants, where it is aerated to control naturally occurring odors and chlorinated to make it safe for drinking. We also utilize ozone at a few plants for sulfide removal and to improve taste and odor. After treatment, pumping stations send it through 4,200 miles of pipes to homes across our area.



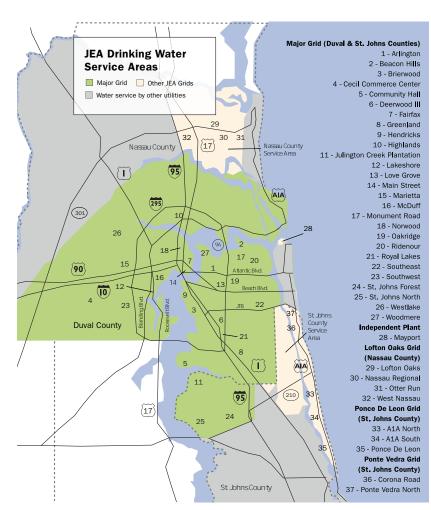
Source Water Assessments: In 2017, the Florida Department of Environmental Protection performed Source Water Assessments to identify potential sources of contamination in the vicinity of JEA wells. Potential contamination sources include landfills, fuel storage tanks, dry cleaning facilities and wastewater disposal areas. Assessment results are available online at fldep.dep.state.fl.us/swapp/.

System	# of Potential Sources	Susceptibility Level			
Major Grid	113	Low-Moderate			
Mayport	2	Low			
Lofton Oaks Grid	5	Low			
Ponte Vedra Grid	2	Low			
Ponce de Leon Grid	5	Low-Moderate			

Water Hardness Levels

Water is described as "hard" when it contains high levels of dissolved minerals — primarily calcium and magnesium. While these naturally occurring compounds can leave spots on dishes and windows (easily removed with white vinegar), they do not present a health risk. In fact, both calcium and magnesium are commonly taken as health supplements.

The table to the right indicates the total hardness found at each of JEA's 37 water treatment plants.



Contact Us

For more information on JEA's water quality tests, please contact us.

By phone: (904) 665-6000 By email: WaterQuality@jea.com By mail:

JEA Water Quality 1002 N. Main St. Jacksonville, FL 32206

In person: JEA's board meetings are held on the third Tuesday of every month at JEA's downtown offices, located at 21 W. Church St., Jacksonville. The public is invited to attend.

Call (904) 665-6000 to request a copy of this report or download an electronic version at jea.com/WQR2017. Printed copies are available at every Jacksonville Public Library branch.

	REATMENT I	RESULTS Parts per million	GRAINS PE
Majo	r Grid (Duval & St. Johns	counties)	
1	Arlington	340	20
2	Beacon Hills	364	21
3	Brierwood	321	19
4	Cecil Commerce Cente	er 123	7
5	Community Hall	190	11
6	Deerwood III	349	20
7	Fairfax	245	14
8	Greenland	308	18
9	Hendricks	261	15
10	Highlands	224	13
11	Julington Creek	347	20
12	Lakeshore	188	11
13	Lovegrove	289	17
14	Main Street	232	14
15	Marietta	245	14
16	McDuff	257	15
17	Monument	416	24
18	Norwood	214	13
19	Oakridge	346	20
20	Ridenour	303	18
21	Royal Lakes	398	23
22	Southeast	297	17
23	Southwest	141	8
24	St. Johns Forest	446	26
25	St. Johns North	230	13
26	Westlake	305	18
27	Woodmere	239	14
	pendent Plant	200	17
Mayp		254	15
	n Oaks Grid (Nassau C		10
29	Lofton Oaks	267	16
30	Nassau Regional	266	16
31	Otter Run	270	16
32	West Nassau	268	16
Ponc	e De Leon Grid (St. Joh		
33	A1A North	336	20
34	A1A South	327	19
35	Ponce de Leon	392	23
	e Vedra (St. Johns Cou		20
36	Corona Road	269	16
37	Ponte Vedra North	346	20
O I	. Since vould North	070	20

Terms and Abbreviations

In the table below, you may find unfamiliar terms and abbreviations. To help you better understand these terms we've provided the following definitions:

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 (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 (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 (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 (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.

Non-Detect (ND) - means not detected and indicates that the substance was not found by laboratory analysis.

Not Required (NR) - Secondary contaminants with sample results below the MCL are not required to be reported.

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.

Variances and Exemptions - State or EPA permission not to meet an MCL under certain conditions.

Note: MCLs are set at stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink two liters of water every day at the MCL for a lifetime to have a one-in-a-million chance of having the described effect.

Important Information

Ponte Vedra Grid

Sample Level Range of

ND-3.36

ND

ND

0.0246-

ND

ND

ND

ND

ND

ND

ND

0.2 - 2.6

Date Detected Results

ND

N/A

01/17- 22.06 12.50-26.63 12/17

01/17 68.72 37.19-79.38

02/17 50.278

02/17 3.36

02/17 0.037

ND

N/A

01/17- 1.32 12/17

The Water Quality Report is provided to all customers of community water systems on an annual basis as required by the Environmental Protection Agency (EPA) under the 1996 Safe Drinking Water Act Amendments.

JEA 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, 2017 Data obtained before January 1, 2017, and presented in this report are from the most recent testing done in accordance with the laws, rules, and regulations. Out of more than 100 contaminants for which JEA routinely tests, only those that have been detected appear in the tables.

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.

Range of

ND

ND

ND-0.085

0.022

ND

ND

0.68-0.72

ND

ND

0.13-0.48

ND

ND

21.0-23.0

ND

ND

ND

N/A

0.23 - 1.7

17.80-26.48

45.18-78.55

Palm Valley (PV)

Level

Detected

ND

ND

0.085

0.022

ND

ND

0.72

ND

ND

0.48

ND

ND

23.0

ND

ND

ND

N/A

0.91

22.54

59.41

Sample

ND

08/17

08/17

08/17

ND

ND

08/17

ND

ND

08/17

ND

ND

ND

08/17

ND

ND

ND

N/A

01/17-

01/17 12/17

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.

Y/N MRDLG MRDL

0

0

6

2

100

4

0

2

N/A

10

50

N/A

0.5

0

0

0

4

N/A 80

6

4.0

N

N

N

N

N

N

N

N

15

5

2

100

4.0

100

50

and solder

from mines

Salt water intrusion, leaching from soil

Discharge from pharmaceutical and chemical factories

Discharge from rubber and chemical factories

By-product of drinking water disinfection

Water additive used to control microbes

By-product of drinking water disinfection

By-product of drinking water disinfection

runoff from cropland

Violation MCLG or MCL or Likely Sources of Contamination

Erosion of natural deposits

Frosion of natural deposits

Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder

Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal

Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water

Erosion of natural deposits; discharge from refineries and factories; runoff from landfills;

Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits

Discharge from petroleum and metal refineries; erosion of natural deposits; discharge

Leaching from ore-processing sites; discharge from electronics, glass, and drug factories

additive which promotes strong teeth when at the optimum level of 0.7 ppm Residue from man-made pollution such as auto emissions and paint; lead pipe, casing,

Pollution from mining and refining operations; natural occurrence in soil

refineries; runoff from waste batteries and paints

Discharge from steel and pulp mills; erosion of natural deposits

Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits

System		Major Grid		Mayport			L	ofton Oaks	Grid	Ponce de Leon Grid		
Contaminant & Unit of Measure	Sample Date	Level Detected	Range of Results	Sample Date	Level Detected	Range of Results	Sample Date	Level Detected	Range of Results	Sample Date	Level Detected	Range of Results
Radioactive Contaminants												
Alpha emitters (pCi/L)	02/17	7.07	ND-7.07	ND	ND	ND	ND	ND	ND	03/11	2.53	ND-2.53
Radium 226+228 or combined radium (pCi/L)	02/17	1.296	ND-1.296	03/09	1.329	N/A	02/17	0.748	ND-0.748	03/11	1.06	ND - 1.06
Inorganic Contaminants												
Antimony (ppb)	02/17	0.495	ND-0.495	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium (ppm)	02/17	0.0341	0.0142- 0.0341	02/15	0.025	NA	02/17	0.0329	0.0281- 0.0329	02/15	0.0193	0.0145- 0.0193
Cadmium (ppb)	02/17	ND	ND	ND	ND	ND	ND	ND	ND	02/15	0.193	ND-0.193
Chromium (ppb)	02/17	0.706	ND - 0.706	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoride (ppm)	02/17	0.769	0.385-0.769	02/15	0.679	N/A	02/17	0.618	0.561-0.618	02/15	1.22	0.96-1.22
Lead (point of entry) (ppb)	02/17	1.95	ND-1.95	ND	ND	ND	02/17	2.18	ND-2.18	02/15	2.41	ND-2.41
Mercury (ppb)	02/17	0.0063	ND-0.0063	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel (ppb)	02/17	2.11	ND-2.11	ND	ND	ND	02/17	3.41	ND-3.41	ND	ND	ND
Nitrate (as Nitrogen) (ppm)	02/17	0.371	ND-0.371	02/17	0.055	NA	ND	ND	ND	02/17	0.065	0.044-0.065
Nitrite (as Nitrogen) (ppm)	02/17	0.169	ND-0.169	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium (ppb)	02/17	7.83	ND-7.83	ND	ND	ND	ND	ND	ND	02/15	1.52	ND-1.52
Sodium (ppm)	02/17	115.15	7.54-115.15	02/15	14.869	N/A	02/17	29.044	18.387-	02/15	64.189	28.57-
Thallium (ppb)	02/17	0.466	ND-0.466	ND	ND	ND	ND	ND	ND	ND	ND	ND
Volatile Organic Contaminants												
Dichloromethane (ppb)	02/17-	1.15	ND-1.15	ND	ND	ND	ND	ND	ND	ND	ND	ND
Synthetic Organic Contaminants												
Di(2-ethylhexyl)phthalate (ppb)	02/17- 11/17	6.7*	ND -6.7	ND	ND	ND	ND	ND	ND	ND	ND	ND
Stage 1 Disinfectants and Disinfection Byproducts**												
Bromate (ppb)	01/17- 12/17	2.36	ND-13.8*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Chlorine (ppm)	01/17- 12/17	1.04	0.2-2.6	01/17- 12/17	0.71	0.2-1.12	01/17- 12/17	0.97	0.2-1.98	01/17- 12/17	1.29	0.2-2.6
Stage 2 Disinfectants and Disinfection By	products**											
Haloacetic Acids (five) (HAA5) (ppb)	01/17- 12/17	30.90	8.45-30.46	07/17	18.93	18.72-18.93	01/17- 12/17	21.38	12.76-22.47	01/17 12/17	19.31	8.86-22.84
TTHM [Total Trihalomethanes] (ppb)	01/17- 12/17	73.75	29.66- 92.31*	07/17	62.15	52.99-62.15	01/17- 12/17	66.24	37.95- 83.76*	01/17	60.73	28.42- 99.21*

* Alth	ough the MCL	value was exceede	d, the annual a	average results v	were below the MCL.
					. I fall out to out out to

^{**}Level Detected for Disinfectants and Disinfection Byproducts is the highest locational running annual average of monthly/quaterly averages if sampled monthly/quarterly, or the highest result if sampled annually.

System	stem Major Grid				Mayport			Lofton Oaks Grid			Ponce de Leon Grid		
Contaminant & Unit of Measure	Sample Date	90th Percentile	# Exceeding AL	Sample Date	90th Percentile	# Exceeding AL	Sample Date	90th Percentile	# Exceeding AL	Sample Date	90th Percentile	# Exceeding AL	
Copper (ppm)	06/17- 08/17	0.130	0 of 102	06/17	0.018	0 of 9	07/17- 08/17	0.032	0 of 30	06/17	0.07	0 of 12	
Lead (ppb)	06/17- 08/17	1.150	1 of 102	06/17	ND	0 of 9	07/17- 08/17	1.400	0 of 30	06/17	1.900	0 of 12	
Secondary Contaminants													
System	Major Grid			Mayport			Lofton Oaks Grid			Ponce de Leon Grid			
Contaminant & Unit of Measure	Sample Date	Level Detected	Range of Results	Sample Date	Level Detected	Range of Results	Sample Date	Level Detected	Range of Results	Sample Date	Level Detected	Range of Results	
Chloride (ppm)	02/17- 04/17	329	9-329	NR	NR	NR	NR	NR	NR	NR	NR	NR	
Iron (ppm)	02/17- 05/17	0.439	0.003-0.439	NR	NR	NR	NR	NR	NR	NR	NR	NR	
Odor (threshold odor number)	02/17- 06/17	64	1-64	NR	NR	NR	02/17- 05/17	5.66	1.00-5.66	02/15	8	1-8	
Sulfate (ppm)	02/17- 06/17	258	22-258	NR	NR	NR	NR	NR	NR	NR	NR	NR	
Total Dissolved Solids (ppm)	02/17- 06/17	846	141-846	NR	NR	NR	NR	NR	NR	02/15	656	537-656	

^{***}High levels of these contaminants do not show adverse health effects. Note: St. Johns Forest WTP (Major Grid) has a FDEP Variance for Sulfate levels not to exceed 500 mg/L.

Pon	te Vedra Grid Palm Valley (PV)								
Sample Date	90th Percentile	# Exceeding AL	Sample Date	90th Percentile	# Exceeding AL	Violation Y/N	MCLG or A MRDLG		Likely Sources of Contamination
06/17- 07/17	0.237	0 of 28	06/17	0.132	0 of 13	N	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
06/17- 07/17	1.930	0 of 28	06/17	0.600	0 of 13	N	0	15	Corrosion of household plumbing systems; erosion of natural deposits
Po	onte Vedra	Grid		Palm Valley (PV)				
Sample Date	Level Detected	Range of Results	Sample Date	Level Detected	Range of Results	Violation Y/N	MCLG or MRDLG		Likely Sources of Contamination
NR	NR	NR	NR	NR	NR	γ***	N/A	250	Natural occurrence from soil leaching
NR	NR	NR	NR	NR	NR	γ***	N/A	0.3	Natural occurrence from soil leaching
02/17	16	1-16	NR	NR	NR	γ***	N/A	3	Naturally occurring organics
NR	NR	NR	NR	NR	NR	γ***	N/A	250	Natural occurrence from soil leaching
02/17	637	395-637	NR	NR	NR	γ***	N/A	500	Natural occurrence from soil leaching

Additional Information

Lead and Copper (Tap Water)

Lead: 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. JEA 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 epa.gov/safewater/lead.

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 from their health care providers about drinking water. 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).

THM [Total Trihalomethanes]: The following samples during 2017 exceeded the TTHM MCL of 80 ppb. However, the system did not incur an MCL violation because all annual average results at all sites were below the MCL. Resamples taken at each site, except the one noted with a * below, were all below the MCL. Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

Major Grid: 6505 Greenfern Lane (Apr.): 88.11 ppb 9170 Milton Drive (Oct.): 92.31 ppb

1908 Lyndhurst Drive (Jul.): 83.76 ppb

172 Wandering Woods Way (Oct.) 88.63 ppb

707 Mill Creek Road (Oct.): 85.65 ppb

2624 Seneca Drive (Jul.*): 82.66, 88.65, 84.0 ppb, (Oct.): 84.84 ppb Lofton Oaks Grid: 97093 Yorkshire Drive (Oct.): 83.76 ppb

Ponce de Leon Grid: 2371 S. Ponte Vedra Blvd. (Jan.): 90.28 ppb, (Apr.): 81.33 ppb 125 Tides Edge Pl. (Jul.): 99.21 ppb, (Nov.): 88.06 ppb