Deerfield Resort Water System

Annual Water Quality Report 2018

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

The Source of Your Water

Deerfield Resort Water System is served by eight (8) wells that have been declared true ground water. The only treatment required is disinfection. We have approximately 17 miles of line, with 465 connections.

Well head Protection

Water is supplied to the system by underground wells, and each individual must practice due diligence in protecting our water source from contamination by refraining from using any liquids, paints, chemicals, etc. within 750 ft. radius of the well. If you see any questionable materials within this area, please report this immediately.

Contaminants in Your Water

Drinking water, including bottled water, may reasonably be expected to contain at least small amount of contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. For more information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (800) 426-4791.

The sources of drinking water (both tap and bottled water) including surface sources and wells. As water travels through the surface of the land or through the ground, it dissolves naturally occurring mineral, and in some cases, radioactive materials and pick up substances resulting from the animals or from human activity.

Microbial Contaminants

Microbial contaminants such as viruses and bacteria which may come from sewage treatment plant, septic systems, agricultural livestock operations and wildlife. Inorganic contaminants such as salt and metals, which can be naturally occurring or result from urban storm runoff, industrial or domestic discharges, oil and gas production, mining or farming.

Pesticides and Herbicides

Pesticides and herbicides which may come from a variety of sources, such as agriculture, urban storm runoff, and residential uses.

Organic Chemical Contaminants

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 runoff, septic systems.

Radioactive Contaminants

Radioactive Contaminants which can be naturally-occurring or be the result of oil and gas productions and mining activities.

Deerfield Resort Water System

Contaminant	Violation Yes/No	Level Found	Range of Detections	Date of Sample	Unit Measurement	MCLG	MCL	Likely source of Contamination
Total Coliform Bacteria RTCR	NO	0				0	0	Naturally present in the environment.
E.coli Bacteria	NO	0				0	0	Human or animal wastes
Gross Alpha	NO	2.4	0-2.4	12-26-2018	PCi/L	0	15	Erosion of natural deposits
Combined Radium	NO	ND	ND/0.8	12-26-2018	PCi/L	0	5	Erosion of natural deposits
Lead	Yes**				ppb	0	AL-15	Corrosion of household plumbing systems, erosion of natural deposits
Copper	Yes**				ppm	0	AL-13	Corrosion of household plumbing systems, erosion of natural deposits
Nitrate (as Nitrogen)	NO	1.3	0.3 to1.3	12-26-2018	ppm	10	10	Runoff from fertilizer use, leaching from septic tanks, sewage; erosion of natural deposits
TTHM's Total Trihalomethanes	Yes**				ppb	N/A	60	By-product of drinking water chlorination
HAA5 (Haloacetic Acids)	Yes**				ppb	N/A	80	By-product of drinking water chlorination
Chlorine	Yes**				ppm	4	4	Water additive used to control microbes

* The chemical analysis table reflects all eight wells in use during 2018

** Monitoring violations occurred, see the Public Notice at the end of the CCR for further explanation, (page 5, 6).

Water Quality Data

What does this chart mean?

- MCLG - Maximum Contaminant Level Goal, or 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.
- MCL - Maximum Contaminant Level, or 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. To understand the possible health effects described for many regulated constituents,

a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.

- MRDL: 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 the control of microbial contaminants.

□ MRDLG: Maximum residual disinfectant level goal. 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.
□ AL - Action Level, or the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.
□ Below Detection Level (BDL) - laboratory analysis indicates that the contaminant is not present at a level that can be detected.
□ Non-Detects (ND) - laboratory analysis indicates that the contaminant is not present.
□ Parts per million (ppm) or Milligrams per liter (mg/l) – explained as a relation to time and money as one part per million corresponds to one minute in two years or a single penny in $10,000.
□ Parts per billion (ppb) or Micrograms per liter - explained as a relation to time and money as one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.
□ Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.
□ Millirems per year (mrem/yr) - measure of radiation absorbed by the body.
□ Million Fibers per Liter (MFL) - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.
□ MRL – Minimum reporting level
□ Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
□ TT - Treatment Technique, or a required process intended to reduce the level of a contaminant in drinking water.
□ RTCR – Revised Total Coliform Rule. This rule went into effect on April 1, 2016 and replaces the MCL for total coliform with a Treatment Technique Trigger for a system assessment.

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER
Monitoring Requirements Not Met for Deerfield Resort Water System

Our water system violated drinking water requirements over the past year. Even though these were not emergencies, as our customers, you have a right to know what happened and what we are doing to correct these situations.

**We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During 2017-2019] we 'did not complete all monitoring or testing' for the contaminants listed below and therefore cannot be sure of the quality of your drinking water during that time. **

What should I do?

There is nothing you need to do at this time.

The table below lists the contaminant(s) we did not properly test for during the last year, how often we are supposed to sample for [this contaminant/these contaminants], how many samples we are supposed to take, how many samples we took, when samples should have been taken, and the date on which follow-up samples were (or will be) taken.[1]

Deerfield Resort Water System

Contaminant	Required sampling frequency	Number of samples taken	When samples should have been taken	When samples were taken
SOC's	1 sample every three years	0	April-June 2014-2016,2017	6-30-2017 (Simazine, Atrazine, Alachlor) 8-28-2017 (Picloram)
Stage 2 Disinfection By Products	Annually	0	9-17-2018	9-18-2019
Entry Point Chlorine Residual	Daily	Failed to submit reports in a timely manner, data provided Feb 8, 2018	10-2016 to 10-2018	11-2016
Stage 2 Disinfection By Products	Annually	0	9-2017	9-18-2019
Lead & Copper	10 Samples Every 3 years	0 of 10	6-2018 to 9-2018	2-27-2019
Radionuclides for 2018	Every 9 years Each Well	1 of 9	12-31-2018	12-28-2018

What is being done?

Deerfield Resort Water System has enlisted the assistance of Communities Unlimited to help us get back on track with all the required testing, and to get our records in order. We are setting up the sampling schedule so that we can better comply with the time frames for all testing.

For more information, please contact Scott Fields at 423-592-4222 or [mailing address].

**Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail. **

This notice is being sent to you by Deerfield Resort Water System. State Water System ID#: TN-0000912.
Date distributed: 10-25-2019.

Federal and State Regulations

Source Water Assessment

The Tennessee Department of Environment and Conservation has prepared a Source Water Assessment Program Report for the untreated water sources. The report assesses susceptibility of untreated water sources to potential contamination. To ensure safe drinking water, all public water systems routinely test their water.

Water sources have been rated as reasonably susceptible, moderately susceptible based on geological factors and human activities in the vicinity of the water source. Our rate is slightly susceptible.
An explanation of this program, the Source Water Assessment summaries, susceptibility scoring and overall TDEC report to EPA at www.sstate.tn.us/environment/dws/dwsassess.shtlm or you may contact Deerfield Resort Water System to obtain copies of specific assessments.

Important Health Information

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, person who has undergone organ transplant, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be at risk from infections.
These people should seek advice about drinking water from their healthcare providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline 800-426-4791.

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 material and components associated with service lines and home plumbing. Deerfield Resort Water System is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components.
When 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 method, and steps you can take to minimize exposure is available through th Safe Drinking Water Hotline or at http:www.epa.gov/safewater/lead.

Nitrates

Greatest source of nitrates are from fertilizers. In the body, nitrate turns into nitrites. A large concentration, causes serious illness of breath and sometimes even death. Nitrate can be removed by reverse osmosis.

Understanding Your Role

With the changing times, our individual role becomes even more critical in preserving safe natural resources for future generations. Active participation and understanding can help ensure protections of our most valued resource.

Detecting Cross Connection

'Backflow' and 'Backsiphonage' are two main causes of Cross Connection contamination.
Backflow is when water in your pipes flows back into the water system. If pressure suddenly drops because of heavy usage (fires, broken water main, etc.) then contaminated water can be siphoned back into your plumbing system from unprotected cross connections in your home.
Weather indoors or outdoors, if a hose is left in a bucket of soapy or uncleaned water could flow backwards into your home water piping causing danger to the health and welfare of your family.
Never, ever connect any piping, connect any water sources to pre-existing mains. Our wells have been approved by TDEC and connection to any other connections would be a violation and direct cross connection. This will

result in immediate contamination of the system. Please contact Deerfield Resort Water System if you feel a violation is made.

Flushing the System

We are blessed with groundwater sources and do not face the same challenges as those whose main source is surface water.

Although we do not have the difficult process of filtering surface impurities, yet as water travels from source to your home, there are instances where soil, sediments, and other organic particles may become trapped within the pipelines.

We routinely flush the lines from designated flushing points, which are throughout the system. As we flush we watch for possible changes in color which may indicate dirt, rust or other sediments. Residents are encouraged to flush their hot and cold water taps from time to time. Preferably turning all the taps on simultaneously, to achieve the same effect within your homes piping system.

Drought Management

As a result of the preceding years, the TDEC's Division of Water Supply has required each Water System to develop a Drought Management Plan.

The Divisions purpose is to maximize the ability of our water systems to support all of its users with effective management, proper planning, and responsiveness, so that the impacts of a drought can be minimized.

The Division has defined different stages of drought. Each phase has its set of guidelines to ensure that all the residents of the community will continue to receive the safest water. Failure to comply may result in penalties and fines as outlined by the Emergency Plan.

Normal Conditions

Water supply is adequate

Drought Alert

Lower than normal precipitation, lower groundwater levels

Voluntary Reductions

Water quality deteriorating or conflicts among users

Mandatory Restrictions

Continued decline in water supply and/or water quality

Emergency Management

Severe water supply or water quality. Problems due to very limited resource availability.

Safe Disposal of Prescription Medication

Recently government bodies have realized that there are limitations to what elements can be removed from the process of filtration. Government bodies have expressed their growing concern of hormones and PPCP's (Pharmaceutical and Personal Care Products) entering into our drinking water.

Even with intricate or highly technological water filtration PPCP's cannot be fully removed. Our wasted system is comprised of septic tanks and pipes which leach into the soil and directly into our aquifer.

Please take precaution when disposing of PPCP's. There are "take back" bins located across the state, please utilize this resource. Please visit this website for more information. http://www.tn.gov.environment/search?keywords=take+back+bins

Deerfield Resort Water System

Lead and Copper Participant Survey

Thank you for your interest in participating with the lead and copper monitoring. To maintain complete records as required and estimate your home's risk factor, we ask that you complete this survey.

Customer Name: _____

Physical Address: _____

Mailing Address: _____

Phone Number: ( ) _____

Years of plumbing at main consumption tap: _____

(typically the kitchen sink: if unknown, write UNKNOWN)

Is there a permanent water filter installed in your home? _____ Yes _____ No

Is a water softener installed in your home? _____ Yes _____ No

What type of plumbing materials are used within the home? Plumbing material can be verified by viewing the lines connecting to your water heater and faucets. Check all that apply.

_____ Lead (dull, dark gray, similar to pencil lead. Easily scratched with hard object, shiny when scratched.)

_____ Copper (copper color, green tarnish)

_____ Galvanized Iron/Steel (Black, some reddish-brown rust, hard to scratch)

_____ Plastic

After the free test kit is delivered, it is important that the sample be collected first thing in the morning **before any other water is run**. The ideal amount of time for water to have settled within the pipes is **8-18 hours**. This allows for analyzing what is happening to the water and plumbing materials after the water was inactive overnight in the lines. **Improper sample collection will invalidate the result.**

Your participation in this sampling helps protect public health.

Thank you for your assistance,

Please contact us at (423) 529-4222 with any questions

Deerfield Resort Water System

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Deerfield Resort Water System
Cross-Connection Residential Survey

Occupant Name _____

Occupant Address _____

1. Occupancy: _____ Own _____ Rent

2. Meter serves: Home(s) How Many? _____ Building(s) How Many? _____

3 Do you have? (Check all that apply):

Hot Tub _____ Swimming Pool _____ Jacuzzi _____ Water Bed _____ Solar System _____

Green House _____ Underground Sprinkler System _____ Darkroom equipment _____

Drip/Soaker/Irrigation System _____ Portable Dialysis Machine _____ Ghost pipes (unidentified) _____

Utility sink w/threaded faucet _____ Wood burning hot water heater _____

Insecticide Sprayer (That attaches to garden hose also) _____

4. Do you have a bathtub that fills from the bottom? Yes _____ No _____

5 Do you have a water softener or any extra water treatment system? Yes _____ No _____

6. Do you have an auxiliary water supply on you premises? Yes _____ No _____

7. Do you have livestock and use a water trough or system connected to by public water?

Yes _____ No _____

8. Is your home or building elevated above your water meter? Yes _____ No _____

9. Does a creek, river, or spring water run near or on your property? Yes _____ No _____

10. Do you have a booster pump, or any other type of water pump? Yes _____ No _____

11. Do you receive irrigation water from a different source? Yes _____ No _____

12. Do you have a backflow protection device on your property now? Yes _____ No _____

13. Do you have any situation that you are aware of that could create a cross-connection?

Yes _____ No _____

14. Do you have any other water-using equipment on your property not mentioned above?

Yes _____ No _____

If yes, please list:

_____

_____ _____

Print Name Phone Number

_____ _____

Signature Date

Please notify Deerfield Resort Water System office if any of the above conditions change. Thank you for your assistance.

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