



Frequently Asked Questions: Raspberry Falls PW-1 GUDI Determination

What is the issue?

On November 23, 2010, Loudoun Water was informed by the Virginia Department of Health (VDH) that the results of a six-month series of tests conducted between May 2010 and October 2010 on Well PW-1 in Raspberry Falls have led VDH to determine that the well's water is under the direct influence of surface water, also known as GUDI.

What does GUDI mean?

All groundwater sources utilized by waterworks such as wells, springs, and infiltration galleries are evaluated by the Virginia Department of Health (VDH) to determine surface water influence.

GUDI stands for Groundwater Under the Direct Influence of surface water. This term characterizes wells whose untreated water requires a level of treatment similar to untreated water from a surface water source.

A GUDI determination does not mean that the treated drinking water is not safe. All treated drinking water samples from Raspberry Falls taken during the six-month timeframe showed no bacteria. In its letter notifying Loudoun Water of its GUDI determination, VDH states, "Our records indicate there has never been a positive distribution system coliform sample since establishment of this public waterworks. In addition, [Loudoun Water] improved the disinfection process at Well PW-1 in the Fall of 2009 by ensuring that 4-log inactivation of viruses was achieved in accordance with the recently established Groundwater Rule."

Why is the GUDI determination being made now?

The PW-1 GUDI determination is the result of Loudoun Water working closely with the Virginia Department of Health and its regulatory process. It was made based upon samples taken over a six-month period from May 2010 through October 2010. During that period of time, Loudoun Water conducted tests four times more frequently than what is required by VDH to determine whether or not PW-1 was GUDI.

At the end of the six month period, the test results revealed that more than 10% of the untreated water samples had total coliform bacteria above 100 counts/100 ml. Following confirmation of the analysis, VDH officially informed Loudoun Water of their findings on November 23, 2010.

VDH states in its letter of GUDI notification, “We acknowledge the actions Loudoun Water has taken at Raspberry Falls to protect public health prior to this determination and to provide water quality information requested by this office necessary to make this determination.”

It is important to note that ALL treated drinking water samples taken during the six-month timeframe showed no bacteria. In its letter notifying Loudoun Water of its GUDI determination, VDH states, “Our records indicate there has never been a positive distribution system coliform sample since establishment of this public waterworks. In addition, [Loudoun Water] improved the disinfection process at Well PW-1 in the Fall of 2009 by ensuring that 4-log inactivation of viruses was achieved in accordance with the recently established Groundwater Rule.”

Why is Well PW-1 now considered GUDI when it wasn't before?

The nature of water wells in karst geology is that any well could become GUDI over time. This situation is not unique to Raspberry Falls. Other water wells throughout the Shenandoah Valley have also become GUDI over time. More information about wells in karst geology is provided by Loudoun County government and can be found [by clicking here](#).

What does this mean for Raspberry Falls residents? Do they need to take any action?

Loudoun Water will not be using PW-1 because it has been determined to be GUDI.

GUDI determinations are specific to each well because of the uniqueness of the karst geology surrounding each well. Raspberry Falls' PW-2 well remains in service and is being tested weekly, four times more frequently than what is required by VDH.

Test results continue to confirm that PW-2 is an acceptable ground water source and not GUDI. PW-2 will provide enough water for usage this winter. Raspberry Falls residents DO NOT need to take any action.

We are planning to bring a new well currently under development, Well F, on-line by spring 2011 to meet elevated demands.

What has been the testing regimen for PW-1? What about PW-2?

Loudoun Water has been testing the untreated and treated water of wells PW-1 and PW-2 once a week. Additional testing is conducted after significant rain events. The testing is done four times more frequently than what is required by VDH.

What about your water treatment process assures the residents that the treated water is safe?

In compliance with VDH regulations, Loudoun Water was strict protocols in place which assure that all drinking water we supply to our customers is safe to drink. The treated drinking water delivered to Raspberry Falls homes is now, and always has been, safe. It is properly disinfected with appropriate levels of chlorine. Regular sampling of the treated water has never shown any bacteria.

In its letter notifying Loudoun Water of its GUDI determination, VDH states, “Our records indicate there has never been a positive distribution system coliform sample since establishment of this public waterworks. In addition, [Loudoun Water] improved the disinfection process at Well PW-1 in the Fall of 2009 by ensuring that 4-log inactivation of viruses was achieved in accordance with the recently established Groundwater Rule.”

What steps are being taken by Loudoun Water to provide an improved system?

Loudoun Water is continuing to move forward with additional improvements, including ultraviolet disinfection and additional storage, to the Raspberry Falls water system and reviewing options that will increase its reliability. We are planning to bring a new well currently under development, Well F, online by spring 2011 to meet elevated demands. To date, test results for Well F continue to confirm that the well is an acceptable groundwater source.

In addition, Loudoun Water is investigating additional options that will improve the system, including an interconnection with Selma’s well system and the installation of surface water treatment.

Will there be enough water for residents with only one well in service?

PW-2 will provide enough water for indoor/winter time usage. Loudoun Water plans to bring Well F on-line by spring 2011 in time to meet additional demand. We will continue to keep the residents informed about Well F’s progress on a consistent basis.

Updates will be provided via email and through the Raspberry Falls page on our website, where customers will find a valuable resource of information detailing

Loudoun Water's work to ensure the community is continuing to receive safe drinking water.

Does Loudoun Water have an emergency plan if PW-2 is taken out of service?

In accordance with state regulations, Loudoun Water has a contingency plan to bring treated drinking water to Raspberry Falls residents in case an emergency requires PW-2 to be taken out of service. Loudoun Water's most immediate option is a standard and reliable method that used a series of trucks to bring TREATED water into the community and pump it into the storage tank. Customers will be able to continue to use their taps for their water.

In addition to the trucking solution, Loudoun Water is also pursuing an interconnection with the Selma well system to provide an on-site emergency solution by early next year. If an emergency occurs, it is likely the Selma interconnection will be used in tandem with the trucking solution to ensure the residents are provided treated drinking water.

If one well out there is GUDI, why aren't the others?

The GUDI determination is specific to each well because of the uniqueness of the karst geology surrounding each well. This geology serves to filter the water before it reaches the well. However, the karst may provide less filtration over time. More information about wells in karst geology is provided by Loudoun County government and can be found [by clicking here](#).

We have seen very little change in untreated water quality in PW-2. Test results continue to confirm that it is an acceptable water source and not GUDI.

Is the new well being tested?

Testing of the new well, Well F, is complete and a report from our contracted hydrogeologists is expected soon. We expect to receive approval soon after informing VDH of our results.

Are there concerns that the new well will be ready in time for the higher demands in the spring and summer?

Loudoun Water plans to bring Well F on-line by spring 2011 in time for outdoor irrigation demands. We are expediting this project and will bring it online as soon as possible. We believe this is an achievable schedule. If this project is delayed, however, there is a potential that water restrictions will be necessary.