# Ground Water Rule
# Frequently Asked Questions

**When does this rule take effect?**
The first compliance date under the Ground Water Rule (GWR) is Dec. 1, 2009.

**If there is a moratorium on new rules for Arizona, why have systems been notified?**
The Environmental Protection Agency signed the GWR on Oct. 11, 2006, and published the GWR in the Federal Register (FR) on Nov. 08, 2006 (71 FR 65574). The Arizona Department of Environmental Quality (ADEQ) incorporated federal drinking water regulations, including the promulgated GWR, by reference, from the Code of Federal Regulations (40 CFR), effective Sept. 1, 2008. ADEQ formally notifies each system potentially affected by the GWR, of the effective date.

**What systems are affected by the rule?**

- All public water systems (PWS) that serve groundwater
- Consecutive systems
- Any system that mixes surface and groundwater if the groundwater is added directly to the distribution system and provided to consumers without surface water treatment

The GWR does not apply to systems that combine all of their groundwater with surface water or with groundwater under the direct influence of surface water, **prior to surface water treatment**.

**How will I know if/when the GWR affects my system?**
The GWR requires that systems that do not provide 4-log treatment of viruses for all of their ground water sources collect at least one source water sample after detection of total coliform in a routine Total Coliform Rule (TCR) (40 CFR 141.21) sample. These triggered source samples must be collected from ground water sources in use at the time the TC positive sample was collected. Samples must be collected within 24 hours unless the State allows an extension and specifies how long the extension is.

**Do I still have to sample under the Total Coliform Rule (TCR) once I begin sampling under the Ground Water Rule (GWR)?**
Yes. The two rules will run independently, yet simultaneously.

**What is the difference between sampling under the TCR and the GWR?**
Both the location of the sample and contaminant processed are different. TCR samples are taken in the distribution system for total coliform, and then processed further for fecal or *E. coli* if necessary. GWR samples are taken at the source (wellhead) and processed for one of three fecal indicators: *E. coli*, enterococci, or coliphage.

**Don't I have the triggered or additional source samples for the GWR tested for total coliform first?**
No. Unlike the TCR, samples must immediately be analyzed for the presence of one of three fecal indicators: ***E. coli***, **enterococci**, or **coliphage**. See Ground Water Rule Triggered and Representative Monitoring: A Quick Reference Guide PDF (EPA-815-F-08-004)

**Can I wait until I have confirmation from the laboratory that my routine TCR total coliform positive sample is not positive for fecal or *E. coli*?**
No. The GWR is triggered as soon as you find out that you have a routine total coliform positive sample under the total coliform rule. You have 24 hours in which to take the triggered source water samples.

**If my total coliform sample comes back negative/absent for Fecal or *E. coli*, why must I continue with the GWR sampling?**
The purpose of triggered source water monitoring is to evaluate whether the presence of total coliform in the distribution system is due to fecal contamination in the groundwater source. It is possible that fecal indicator contamination out in the distribution system may be intermittently detected, which is why the system would sample at the source to confirm.

**Why isn't a fecal negative/positive through the total coliform speciation enough to determine if the source water is contaminated?**
A system cannot assume that a total coliform sample in the distribution system processed using the COLILERT media is representative of the source water and would necessarily yield the same results.

**Can I use the COLILERT test?**
Ensure all samples are analyzed for the presence of a fecal indicator (e.g., *E. coli*, enterococci, or coliphage) using an approved GWR method. COLILERT may be used for detecting *E. coli*, but the system must sample the source water and not assume that a total coliform sample in the distribution system processed using the COLILERT media is representative of the source water.

**What does "fecal indicator" mean?**
Fecally contaminated ground water can be identified by monitoring for either pathogenic microorganisms or for non-pathogenic fecal indicator microorganisms whose presence suggests fecal contamination or a pathway for contamination and, therefore, the potential presence of pathogens. Monitoring for indicators is generally more practical than monitoring for actual pathogens. Only the more advanced water laboratories currently have the analytical capabilities to analyze water samples directly for pathogens. In addition, pathogen concentrations in water tend to be low, thereby requiring the analysis of larger sample volumes and increasing analytical costs; and many of the viruses associated with waterborne disease are either difficult or impossible to culture.

**What if I suspect that I have a false positive?**
If invalidated by the regulatory agency, it must be replaced with another sample within 24 hours. Proper sampling technique and attention to avoiding detrimental conditions (such as collection during a monsoon season dust storm) is recommended.

**What if I cannot pull a sample due to some unforeseen circumstance?**
Exceptions can be made for inclement weather events, etc., but requires regulatory pre-approval and an extended deadline in writing.

**Can I report the results of my GWR triggered or additional sampling on the TCR form?**
No. The GWR triggered samples must be submitted on DWAR1G-R, which can be found on our website at static.azdeq.gov/forms/dw/dw_dwar1gr.pdf.

**So my system must submit a 4-log Removal of Viruses Application Form and a Representative Monitoring Plan?**
Both the 4-log Removal of Viruses demonstration and a Representative Monitoring Plan are optional under the GWR; therefore, no action is required under the GWR unless the system gets a positive routine total coliform sample collected under the Total Coliform Rule (TCR), or chooses to make a demonstration or submit a plan.

**If I submit a 4-log Removal of Viruses Application Form, I am done with the GWR, correct?**
No. Once you submit a 4-log Removal of Viruses Application Form to ADEQ, MCESD or PDEQ, you must receive approval for the application. If you receive approval, then the system must do the chlorine residual compliance monitoring required under the GWR instead of the Triggered Source Water Monitoring.

If the 4-log Removal of Viruses Application Form approval was denied, then Triggered Source Water Monitoring applies to the system in the event of a routine total coliform positive sample under the total coliform rule.

**How do I fill out and submit the 4-log Removal of Viruses Application Form?**
Supply the requested information and return the original signed application form and supporting documents to:

Arizona Department of Environmental Quality
Drinking Water Section, Water Quality Division
1110 W. Washington St.
Phoenix, AZ 85007

Contact Karen Shanafelt, Engineering Review at 602-771-4648, or Shanafelt.Karen@azdeq.gov if you have specific questions about completing the application form.

**What does "4-log treatment of viruses" mean?**
The 4-log treatment of viruses means the public water system is providing at least 99.99 percent (4-log) treatment of viruses (using virus inactivation, removal, or a state-approved combination of inactivation and removal) before or at the first customer.

**What is my minimum chlorine residual entering the distribution system?**
It should not drop below 0.2 mg/L; however, the actual minimum would be determined on a case-by-case basis after review and approval of the 4-log Removal of Viruses Application Form.

**Where do I sample for the chlorine residual?**
This would be at some point after treatment and storage but before the first customer; however the actual location would be determined on a case-by-case basis after review and approval of the 4-log Removal of Viruses Application Form.

**Whom do I contact at ADEQ for more information?**
Contact Jennifer Peterson at 602-771-4734 or Peterson.Jennifer@azdeq.gov for assistance with the GWR.

**See EPA's Ground Water Rule Basic Information for more FAQs.**