

Groundwater Rule Supplement for PWS Bacterial Sampling Plan for Consecutive Systems

Ground Water Rule (GWR)

The Groundwater Rule applies to all public water supply systems (PWSs) that use groundwater, including consecutive systems, who do not combine all of their groundwater with surface water or with groundwater under the direct influence of surface water prior to treatment and who do not provide at least 4-log virus inactivation and/or removal at or before the first customer. These systems are required to collect source water samples when a routine Total Coliform Rule (TCR) sample tests positive for bacteria.

Triggered Source Water Monitoring Plan

The following document describes the recommended additions to your bacterial sampling plan in order to help ensure that the correct source(s) is sampled without collecting unnecessary samples. The purpose of the triggered source water monitoring plan is for the system to have a step-by-step plan in place that identifies which sources (wells) must be sampled in response to a routine total coliform-positive sample at any given sampling site. It is important that the plan be readily available to water system personnel responsible for sample collection, since triggered source water samples must be collected within 24 hours of learning of the positive routine sample result. A written triggered source water monitoring plan may be helpful to your system for any of the following reasons:

- If a system is part of a network of wholesale and consecutive systems, the triggered source water monitoring plan would provide direction as to whom should be notified and who should collect fecal indicator source water samples under different routine total coliform-positive sample scenarios.
- If the operation of the system is divided so that the distribution system is operated and maintained by different staff than those who operate and maintain the sources and their related treatment, the plan would provide direction to all staff involved.
- If sample collection for the system is conducted by staff other than the operators (e.g., a commercial laboratory), a written plan would help the system and laboratory staff ensure that the proper locations are sampled.
- A written, accessible sampling plan will prevent in-house communication errors and the chance of inadequate or inaccurate sampling.
- A written plan could help assure communication among staff and delineate roles for conducting distribution system and source water sampling.

A triggered source water monitoring plan should include the following minimum elements:

1. Add the following to your existing bacterial sampling plan distribution system map or create a separate map for these items:
 - Pressure zone boundaries in the distribution system, if separate pressure zones exist.
 - TCR routine monitoring locations, distinctly labeled.
 - Entry points of all sources, distinctly labeled, with the contributing sources clearly identified.
 - Entry points and status of any interconnections to or from other systems.
 - Storage tanks / reservoirs locations and seasonal operational changes if any.
 - Pressure regulation facilities (reducing stations).
 - Other infrastructure that may affect pressure and/or flow in the distribution system.
 - Booster pump stations.
 - Critical valves, particularly those used to hydraulically separate portions of the system.
2. The source type and level of treatment provided for each source/point of entry and whether it is seasonal, emergency, ground water, surface water, a wholesale supply, etc.
3. The source(s) serving each TCR routine monitoring location and the basis for the determination (e.g., system hydraulics, operation, water quality data, etc.)
4. For wholesale systems, the consecutive systems served and, if applicable, the sources serving each consecutive system.
5. For consecutive systems, the wholesale system providing water to each sampling location.

6. Any changes or variations expected in the monitoring plan such as the use of seasonal sources, rotating sources, etc.

The triggered source water monitoring plan can be a stand-alone, independent document or the system may incorporate it as part of its bacteria sample siting plan. Incorporating it as part of the bacteria sample siting plan may be useful because of the direct relationship that exists between TCR and GWR. In addition, many systems might need to create a multi-scenario monitoring plan to reflect the variety of ways in which their systems are operated throughout the year. For example, a system that uses a well field only during certain months to meet high demand may need to have one monitoring plan for those months and another monitoring plan for the others. However, where there is uncertainty of which wells are in use, a conservative approach should be used in which all potential sources are included.

The following pages may be added after the list of monthly sampling sites in your current bacteria sampling plan.

Items in blue may or may not be needed for your system and may be deleted if not needed.

SECTION 2 – GROUNDWATER RULE

TRIGGERED SAMPLING

_____ PWS is a Consecutive System. When we are notified of a total coliform-positive routine distribution system sample that is located in an area of our system served by water purchased from a groundwater wholesale system, we must notify the wholesaler within 24 hours of the initial positive sample notification. The wholesale system must then conduct triggered source water monitoring; unless it has 4-log treatment technique requirements in place.

_____ PWS uses the following groundwater sources or combination of sources:

	Consecutive Source ID	Operation Schedule	Groundwater Wholesaler*
1.			<input type="checkbox"/>
2.			<input type="checkbox"/>
3.			<input type="checkbox"/>
4.			<input type="checkbox"/>

*This is the system that produces the treated groundwater.

Triggered Monitoring Plan

TCR Sample Site	Contributing Source(s)	Seasonal Considerations

Contact Information:

Laboratory		
Primary Contact:	Phone:	After Hours Phone:

DNR Field Office # _____		
Primary Contact:	Phone:	After Hours Phone:

DNR Water Supply Operations Section		
Primary Contact:	Phone:	After Hours Phone:
		None

Wholesaler(s)			
System Name:	Primary Contact:	Phone:	After Hours Phone:

