

**DEPARTMENT OF ENVIRONMENTAL PROTECTION**  
**Bureau of Safe Drinking Water**

**DOCUMENT NUMBER:** 393-3130-208

**TITLE:** New Source Sampling Requirements for a New Groundwater Well Serving a Community, Nontransient Noncommunity, Bottled, Vended, Retail, or Bulk Water Hauler System

**EFFECTIVE DATE:** December 14, 2013  
Minor revision adding PFAS August 19, 2023.  
Minor revision adding additional PFAS December 14, 2024.  
Revisions March 2026

**AUTHORITY:** Pennsylvania's Safe Drinking Water Act (35 P.S. § 721.1 *et seq.*) and regulations at 25 Pa. Code Chapter 109.

**POLICY:** Department of Environmental Protection (DEP or Department) staff will follow the guidance and procedures presented in this document to direct and support implementation of new source sampling activities under the Safe Drinking Water Program.

**PURPOSE:** The purpose of this document is to establish a rational and reasonable basis for staff decisions which will promote quality, timely and consistent service to the public and regulated community.

**APPLICABILITY:** This guidance will apply to minimum sampling requirements for a new groundwater well for a community, nontransient noncommunity, bottled, vended, retail, or bulk water hauler system.

**DISCLAIMER:** The policies and procedures outlined in this guidance are intended to supplement existing requirements. Nothing in the policies or procedures shall affect regulatory requirements.

The policies and procedures herein are not an adjudication or a regulation. There is no intent on the part of DEP to give the rules in these policies that weight or deference. This document establishes the framework within which DEP will exercise its administrative discretion in the future. DEP reserves the discretion to deviate from this policy statement if circumstances warrant.

**PAGE LENGTH:** 4 pages

**DEFINITIONS:** See Title 25 Pa. Code Chapter 109

## Introduction

This guidance outlines the procedures and identifies the minimum new source sampling requirements for community, nontransient noncommunity, bottled, vended, retail, and bulk water hauler systems utilizing groundwater wells.

All groundwater new source samples must be collected prior to submission of the public water supply construction permit application.

Public water suppliers should contact the appropriate DEP regional office early in the process to obtain information regarding specific new source sampling requirements and additional guidance on sampling procedures. Where applicable, the relevant river basin commission should also be contacted before sampling.

## General Information



1. A site survey/site visit to the well location must be conducted jointly by DEP, the applicant, and their representatives prior to well drilling, aquifer testing, and collection of the new source samples. The applicant shall coordinate and schedule the visit with Safe Drinking Water Program staff in the appropriate [DEP regional office](#).
2. All proposed public water supply wells must be drilled by a [Pennsylvania licensed well driller](#).
3. The proposed public water supply well must be properly developed prior to collection of new source water samples or any other water-quality samples included in the application package. Well development should be conducted in accordance with the procedures outlined in the latest version of [AWWA Standard A-100](#), which includes the removal of drilling fines, formation fluids, and other debris to ensure representative water-quality samples. Proper development ensures that samples accurately reflect the groundwater quality.
4. The proposed public water supply well must be properly disinfected prior to collection of new source water samples in accordance with the procedures outlined in the latest version of [AWWA Standard C645](#).
5. Prior to collecting the new source samples, a free chlorine sample must be analyzed and recorded using an appropriately calibrated field analytical instrument with a digital display. The sample results must be less than 0.02 mg/L before new source water samples can be collected. The free chlorine results shall be submitted to DEP with the new source sample results.

## Sample Collection

Except as otherwise noted, the public water supplier or its consultant is responsible for collecting new source groundwater samples.

1. Samples shall be collected immediately following the constant-rate aquifer/pumping test conducted on the proposed groundwater source, when the aquifer is stressed and groundwater quality is most representative.
2. Samples shall be collected from a designated sampling port located directly on the groundwater discharge piping. Sampling must be conducted in a manner that does not alter the native groundwater chemistry.
3. Appropriate sampling equipment and techniques shall be followed and documented.

4. Samples shall be properly collected, prepared, stored, and documented. Additionally, all volatile organic chemical (VOC) samples should be collected by personnel trained by a DEP-accredited laboratory to perform VOC analysis

### **Laboratory Analysis**

1. All sample analyses must be performed by a [DEP-accredited laboratory](#) in accordance with Subchapter H of 25 Pa. Code Chapter 109.
2. Samples should be submitted to the laboratory in laboratory-issued containers with appropriate chain-of-custody documentation and within the required holding times.



## List of Minimum Sampling Requirements

The following tables identify the minimum sampling requirements for new groundwater sources. Unless otherwise directed by the Department, all samples shall be analyzed in accordance with the parameters listed below. The Department may require monitoring of any other contaminant(s) as determined necessary to adequately evaluate the quality of the source.

| <b>VOLATILE ORGANIC CHEMICALS (VOCs):</b>  |   |  |
|--|---|--|
| BENZENE<br>CARBON TETRACHLORIDE<br>o-DICHLOROBENZENE<br>para-DICHLOROBENZENE<br>1,2-DICHLOROETHANE<br>1,1-DICHLOROETHYLENE<br>cis-1,2-DICHLOROETHYLENE   | trans-1,2-DICHLOROETHYLENE<br>DICHLOROMETHANE<br>1,2-DICHLOROPROPANE<br>ETHYLBENZENE<br>MONOCHLOROBENZENE<br>STYRENE<br>TETRACHLOROETHYLENE | TOLUENE<br>1,2,4-TRICHLOROBENZENE<br>1,1,1-TRICHLOROETHANE<br>1,1,2-TRICHLOROETHANE<br>TRICHLOROETHYLENE<br>VINYL CHLORIDE (See NOTE)<br>XYLENES (Total) |
| NOTE: Monitoring for vinyl chloride is only required when one or more of the following two-carbon compounds are detected: trichloroethylene, tetrachloroethylene, trans-1,2-dichloroethylene, cis-1,2-dichloroethylene, 1,2-dichloroethane, 1,1-dichloroethylene, 1,1,1-trichloroethane. |   |  |

| <b>SYNTHETIC ORGANIC CHEMICALS (SOCs):</b>   |  |  |
|--|--|--|
| ALACHLOR<br>ATRAZINE<br>BENZO(A)PYRENE<br>CARBOFURAN<br>CHLORDANE<br>DALAPON<br>DI(2-ETHYLHEXYL) ADIPATE<br>DI(2-ETHYLHEXYL) PHTHALATE<br>DIBROMOCHLOROPROPANE<br>(DBCP)<br>DINOSEB  | DIQUAT<br>ENDOTHALL<br>ETHYLENE DIBROMIDE (EDB)<br>ENDRIN<br>GLYPHOSATE<br>HEPTACHLOR<br>HEPTACHLOR EPOXIDE<br>HEXACHLOROBENZENE<br>HEXACHLOROCYCLOPENTADIEN<br>E<br>LINDANE | METHOXYCHLOR<br>OXAMYL (VYDATE)<br>PCBs <sup>1</sup><br>PENTACHLOROPHENOL<br>PICLORAM<br>SIMAZINE<br>TOXAPHENE<br>2, 3, 7, 8-TCDD (DIOXIN) <sup>1</sup><br>2, 4-D<br>2, 4, 5-TP (SILVEX) |
| 1. Monitoring for PCBs and/or dioxin is required when there is a contamination source within 1,000 feet of the new groundwater source. Provide details of the assessment in Public Water Supply Module 3A, Part U to support a finding of no sources of contamination. |  |  |

| <b>INORGANIC CHEMICALS (IOCs):</b>  |  |  |
|---|--|--|
| ANTIMONY<br>ARSENIC<br>ASBESTOS (See NOTE)<br>BARIUM<br>BERYLLIUM<br>CADMIUM  | CHROMIUM<br>COPPER<br>CYANIDE (as free cyanide)<br>FLUORIDE<br>LEAD<br>MERCURY | NICKEL<br>NITRATE (as Nitrogen)<br>NITRITE (as Nitrogen)<br>SELENIUM<br>THALLIUM |
| NOTE: Monitoring for asbestos is required when DEP has reason to believe the source is vulnerable to contamination. |  |  |

| <b>RADIONUCLIDES:</b>   |                       |
|---|-----------------------|
| GROSS ALPHA   | GROSS BETA (See NOTE) |
| RADIUM-226, RADIUM-228  | URANIUM               |
| NOTE: If the Gross Beta exceeds 50 pCi/L, analyze the same or equivalent sample to identify the major radioactive constituents present. |                       |

| <b>MICROBIOLOGICAL CONTAMINANTS:</b> |  |
|--------------------------------------|--|
| TOTAL COLIFORMS CONCENTRATION        | <p>Three (3) separate samples obtained at 15-minute intervals immediately prior to the conclusion of the constant rate aquifer test.</p> <p>For each Total Coliform positive sample, analyze the same or equivalent sample for <i>E. coli</i> concentration.</p> |

| <b>PERFLUOROALKYL AND POLYFLUOROALKYL SUBSTANCES (PFAS):</b>                     |                                      |
|--|--------------------------------------|
| PERFLUOROCTANESULFONIC ACID (PFOS)   | PERFLUOROCTANOIC ACID (PFOA)         |
| PERFLUOROHEXANE SULFONIC ACID (PFHxS)  | PERFLUORONONANOIC ACID (PFNA)        |
| HEXAFLUOROPROPYLENE OXIDE DIMER ACID (HFPO-DA, commonly known as GenX Chemicals) | PERFLUOROBUTANE SULFONIC ACID (PFBS) |

| <b>SECONDARY CONTAMINANTS AND OTHERS:</b>  |  |  |
|--|--|--|
| ALKALINITY<br>ALUMINUM<br>CHLORIDE<br>COLOR<br>FOAMING AGENTS  | HARDNESS<br>IRON<br>MANGANESE<br>pH (See NOTE)<br>SILVER   | SULFATE<br>TEMPERATURE (See NOTE)<br>TOTAL DISSOLVED SOLIDS<br>TOTAL ORGANIC CARBON<br>TURBIDITY (NTU)<br>ZINC |
| NOTE: Temperature and pH measurements may be obtained in the field with a calibrated water quality meter within 15 minutes of sample collection. |  |  |
| <b>MICROSCOPIC PARTICULATE ANALYSIS (MPA)</b>  | The project applicant must coordinate with appropriate DEP regional staff regarding MPA sampling. Sampling must be conducted by the DEP or the project applicant for new groundwater sources which fall within the criteria of the <i>Guidance for Surface Water Identification Protocol</i> ( <a href="https://greenport.pa.gov/elibrary/">394-3500-002</a> ), available on <a href="https://greenport.pa.gov/elibrary/">https://greenport.pa.gov/elibrary/</a> . |  |