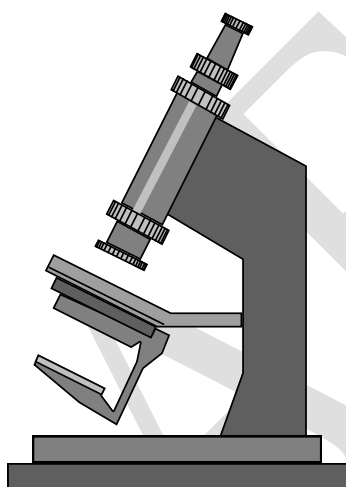


**LABORATORY REPORTING
INSTRUCTIONS
for**



**TOTAL COLIFORM AND
E. COLI BACTERIA
IN PUBLIC WATER SYSTEMS**

XXX-XXXX-XXX



pennsylvania
DEPARTMENT OF ENVIRONMENTAL
PROTECTION

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Safe Drinking Water

DOCUMENT NUMBER: XXX-XXXX-XXX

TITLE: Laboratory Reporting Instructions for Total Coliform, and *E. Coli* Bacteria in Public Water Systems

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

EFFECTIVE DATE: Upon publication of notice as final in the *Pennsylvania Bulletin*

POLICY: It is the policy of the Department of Environmental Protection (DEP) to provide accredited laboratory directors and public water suppliers with the information necessary to properly report coliform and *E. coli* bacteria analytical compliance monitoring data under the Safe Drinking Water Program.

PURPOSE: The purpose of this document is to establish uniform instructions and protocol for implementing the drinking water reporting requirements for total coliform and *E. coli* bacteria analytical data.

APPLICABILITY: This guidance will apply to all accredited laboratories and public water systems that are required to submit public drinking water total coliform or *E. coli* bacteria analytical data to DEP.

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: 102 pages

DEFINITIONS: See 25 Pa. Code Chapter 109

Table of Contents

SECTION 1: INTRODUCTION	3
BACKGROUND	3
GENERAL MONITORING AND REPORTING INFORMATION	3
SECTION 2: RESPONSIBILITIES OF THE LABORATORY	4
SECTION 3: ELECTRONIC ASSISTANCE TOOLS.....	7
SUBSECTION A: DEP DRINKING WATER ELECTRONIC REPORTING (DWELR)	7
SUBSECTION B: DWRS AND CONSUMER CONFIDENCE REPORTING SYSTEM	7
SECTION 4: REPORTING RESULTS ON THE SDWA FORMS.....	8
Table 1: Using the Correct DEP DWELR Reporting Forms	8
SUBSECTION A: SDWA-S FORM; COLIFORM AND E. COLI BACTERIA REPORTING	
SUBSECTION B: SDWA-1 FORM; COLIFORM AND E. COLI BACTERIA REPORTING	
SECTION 5: REQUIREMENTS AND CODES FOR REPORTING MONITORING RESULTS.....	15
Table 2: Follow-up <i>E. coli</i> Testing Requirements	16
Table 3: Presence/Absence Laboratory Method Codes for Reporting Coliforms and <i>E. coli</i>	17
SECTION 6: MONITORING FREQUENCY REQUIREMENTS	18
Table 4: Monitoring Frequencies	18
Table 5: Number of Samples Required Based on Population.....	19
Table 6: Check Sampling Requirements.....	20
SUBSECTION A: INVALIDATION OF TOTAL COLIFORM SAMPLES	21
SUBSECTION B: COLIFORM BACTERIA PRIMARY MCL	23
Table 7: Coliform MCL Violation Determination.....	23
SUBSECTION C: FLOW CHARTS-RTCR MONITORING/REPORTING AND VIOLATIONS	23
SECTION 7: INSTRUCTIONS FOR SDWA CORRECTION FORMS	28
SECTION 8: CASE STUDIES	29
Case #1: Noncommunity System-No Violation	29
Case #2: Noncommunity System-Positive Routine Sample but No Violation.....	33
Case #3: Noncommunity System-Acute and Monthly MCL Violations	35
Case #4: Noncommunity System-Positive Routine Sample but No Violation; Positive Triggered Source Water Sample	38
Case #5: Community System-No Violation	40
Case #6: Community System-Monthly MCL Violation.....	41
Case #7: Community System-Acute MCL Violation	43
Case #8: Community System-Acute MCL Violation (Resulting from a Failure to Analyze for <i>E. coli</i> Coliform)	45
Case #9: Community System-Monitoring Violations	47
APPENDIX I: Department of Environmental Protection (DEP) and County Health Department (CHD) Offices Contact List (revised June 2013)	1
APPENDIX II: Department of Environmental Protection Field Operations Regional Offices and Emergency Phone Numbers.....	4
APPENDIX III: Existing TCR Laboratory Reporting Requirements.....	62
APPENDIX IV: SDWA Data Correction Forms.....	50

SECTION 1: INTRODUCTION

This manual provides guidance for reporting of drinking water total coliform, and *E. coli* bacteria monitoring results to the Department of Environmental Protection (DEP) as required by the *Revised Total Coliform Rule (RTCR)* and the *Groundwater Rule (GWR)*. The *RTCR* was published in the *Pennsylvania Bulletin* on _____, 2016 (46 Pa.B. _____). The *RTCR* requires all public water systems (PWSs) in Pennsylvania to monitor for coliform bacteria in the distribution system. The *RTCR* also requires all Bottled, Vended, Retail and Bulk Water Haulers (BVRB) to monitor for coliform bacteria in each finished product (i.e., at each entry point). Requirements of the Total Coliform Rule (TCR) are included in Appendix III. Water systems must continue to meet the requirements of the TCR until the State's *RTCR* regulations are finalized.

BACKGROUND

The *RTCR* establishes a maximum contaminant level (MCL) for *E. coli* in drinking water distribution systems. The MCL is based on the **presence** or **absence** of *E. coli* detected in the samples collected each month. The *RTCR* uses the presence of *E. coli* and total coliforms to initiate a “find and fix” approach to address fecal contamination that could enter into the distribution system. It requires PWSs to perform assessments to identify sanitary defects and subsequently take action to correct them. PWSs must collect coliform samples based on the water system size (i.e., population served) and system type to ensure the data are representative of the water supplied to every customer.

The *GWR* was published in the *Pennsylvania Bulletin* on December 26, 2009. (39 Pa.B. 7279). The *GWR* requires all PWSs using groundwater to collect at least one sample from each groundwater source that is connected to the distribution system within 24 hours of notification of a total coliform-positive routine sample collected under the *RTCR*. The source water sample, referred to as a **triggered** source water sample, must be collected prior to any treatment and be tested for the presence of *E. coli*. PWSs providing 4-log treatment of viruses for their sources are not required to collect triggered source water samples.

The purpose of *GWR* triggered source water monitoring is to evaluate whether the presence of total coliform in the distribution system is due to fecal contamination in a groundwater source. If a triggered source water sample tests positive for *E. coli*, the PWS must issue Tier 1 Public Notification. The PWS is also required to collect five additional source water samples from the source that tested positive. The PWS must have those samples analyzed for *E. coli* or, if required by DEP, perform a corrective action. If any of the five additional source samples is *E. coli*-positive, a corrective action is required by DEP.

GENERAL MONITORING AND REPORTING INFORMATION

The monitoring and reporting requirements described in this manual are in addition to other routine monitoring and reporting requirements for public water systems, and do not supersede them.

Additional information about MCL compliance determinations and monitoring/reporting requirements is detailed in [Section 6](#) and [Section 7](#) in this document. However, some aspects of the rules are of concern to laboratories including that:

- All samples must be 100 mL.
- Total coliform-positive samples **must** be tested for *E. coli*.

- The *presence* or *absence* of total, and *E. coli* bacteria **must** be reported for RTCR and GWR, not density (enumeration).
- For each total coliform-positive sample, DEP requires the testing of check samples: one at the original location; one within five service connections upstream of the original location; one within five service connections downstream of the original location.
- For sources where 4-log treatment of viruses is not provided, each total coliform-positive sample requires the testing of triggered source water samples.
- Triggered source water samples **must** be analyzed by an *E. coli* method.
- Under certain circumstances, samples may be invalidated (see [Section 7 Subsection A](#) in this document).

The laboratory's assistance is critical in regard to **accurate** and **prompt** data reporting.

Please read the instructions in this document carefully. Failure to monitor, analyze and report coliform results correctly may result in the water supplier incurring a violation of the Safe Drinking Water Regulations. The results of monitoring conducted under RTCR and GWR are reported to DEP **each month** by entering results into DEP's Drinking Water Electronic Lab Reporting (DWELR) system. Instructions for reporting through *DWELR* are available on DEP's website at www.dep.state.pa.us; enter the keyword "DWELR".

The drinking water analysis results entered into DWELR are uploaded into the Pennsylvania Drinking Water Information System (PADWIS), the computerized data management system used by DEP to track drinking water monitoring results. An effective drinking water surveillance program requires prompt follow-up to MCL and monitoring violations for the protection of public health.

The SDWA-1 - Bacteriological/ Residual Disinfectant/ Turbidity/DBP Analysis (SWDA-1) form is used for the reporting data.

See [Section 4](#) in this manual for details of the reporting procedures.

Note: Distribution chlorine residual measurements taken in conjunction with the coliform samples must be reported separately from the coliform results. Please refer to the *Laboratory Reporting Instructions for Disinfectant Residuals, Disinfection Byproducts and Precursors*, DEP ID: 383-3301-306 for details on reporting chlorine residual data.

SECTION 2: RESPONSIBILITIES OF THE LABORATORY

Under the provisions of Chapter 109, Safe Drinking Water Regulations, under the authority of the PA Safe Drinking Water Act, it is the responsibility of the accredited laboratory to:

1. ***Submit the results of analyses*** performed by the laboratory under the Safe Drinking Water Regulations ***to DEP in an electronic format*** acceptable to DEP.
2. ***Report the results within either the first 10 days following the month in which the result is determined or the first 10 days following the end of the required monitoring period as stipulated by DEP, whichever is shorter. Failure to report as required will result in the water supplier incurring a violation for failure to monitor.***
3. Obtain and maintain the DEP and County Health Department (CHD) current after-hours emergency response telephone numbers for each applicable DEP regional and CHD office. DEP and CHD routine business hours and DEP emergency phone numbers are located in [Appendix I](#) and [Appendix II](#), respectively. (Appendix I was updated in 2015. Allegheny County Health Department's emergency phone number is: **(412) 678-2243** and Erie County Health Department's emergency phone number is: **(814) 451-6700**.)
4. ***Establish and maintain a standard operating procedure to provide the information needed to report a violation listed below to DEP.*** This procedure should be verified at least annually.
5. Under 25 Pa. Code Chapters 109 and 252, notify customers served by the laboratory within 72 hours of the following:
 - a. Failure to renew or DEP denial of renewal of existing accreditation for a category of laboratory accreditation.
 - b. Revocation of accreditation by DEP for the environmental laboratory conducting testing or analysis of drinking water under 25 Pa. Code Chapter 109.

Whenever an MCL, a maximum residual disinfectant levels (MRDL), or a treatment technique performance requirement is exceeded or a sample result requires the collection of check samples, the laboratory must:

1. Notify the public water supplier by telephone within 1 hour of the laboratory's determination. If the supplier cannot be reached within 1 hour, notify DEP by telephone within 2 hours of the determination. If the PWS is regulated under a CHD, the appropriate Health Department office must be notified.
 - a. If it is necessary for the laboratory to contact DEP or CHD after the agency's routine business hours, the laboratory must contact the appropriate agency's after-hours emergency response telephone number. (See [Appendix II](#) in this manual for DEP emergency phone numbers. Currently, Allegheny County Health Department's emergency phone number is: **(412) 678-2243** and Erie County Health Department's emergency phone number is: **(814) 451-6700**.)

- b. If the appropriate DEP or CHD emergency number cannot be reached, the laboratory must notify the appropriate DEP regional office by telephone within 1 hour of the beginning of the next business day.

The laboratory must provide information regarding the occurrence, the name of a laboratory contact person and the telephone number where that individual may be reached in the event further information is needed. The information regarding the PWS relayed to DEP or CHD, if appropriate, shall include, but is not limited to:

- PWSID number of the system.
- Public water system's name.
- Contaminant involved in the occurrence.
- Level of the contaminant found.
- Where the sample was collected.
- Dates and times that the sample was collected and analyzed;
- Name and identification number of the accredited laboratory.
- Name and telephone number of a contact person at the laboratory.
- Steps the laboratory took to contact the PWS before calling DEP.

2. Notify the appropriate DEP district office in writing within 24 hours of the determination. See Appendix I in this document for phone numbers and addresses. For the purpose of determining compliance with this requirement, the postmark-if the notice is mailed-or the date the notice is received, whichever is earlier, will be used by DEP. Upon approval by DEP, the notice may be made electronically to DEP if the information is received within the 24-hour deadline per 25 *Pa.code* 109.810(b)(2).

Note: Proper laboratory reporting and notification of analytical results to DEP is a condition of a laboratory's accreditation. Failure to properly report results may lead to the revocation of accreditation in addition to any enforcement actions which may be taken under the Safe Drinking Water Act. An effective surveillance program requires prompt follow-up to MCL, MRDL, treatment techniques and monitoring violations for the protection of public health. Your assistance is critical in regard to accurate and prompt data reporting.

Information recording who collected and analyzed the samples is to be documented and retained by the laboratory. For the samples that were collected by water system personnel rather than laboratory personnel, the laboratory must retain a copy of the chain of custody.

Additionally, laboratories should retain records, including original handwritten data that would allow reconstruction of all laboratory activities associated with the testing or analysis of environmental samples for a minimum of 5 years and as required under 25 *Pa. Code* Chapters 109 and 252. The records should be complete enough so that assessors can reconstruct the entire analysis and all the activities related to generating the final result using the laboratory's records.

Records of analyses must also be kept by the PWSs as required per 25 *Pa. Code* Chapter 109.

SECTION 3: ELECTRONIC ASSISTANCE TOOLS

The following electronic assistance tools are available from DEP.

SUBSECTION A: DEP DRINKING WATER ELECTRONIC REPORTING (DWELR)

To report electronically, accredited laboratories and public water systems must use the DEP *DWELR*, according to Chapter 109.810 Reporting and notification requirements. This system is a DEP internet web application for accredited laboratories and public water suppliers to upload sample files and/or enter sample results using a web screen entry form. Detailed instructions are contained in the *DWELR* web application. Entities choosing to upload their data can retrieve the data formats from within *DWELR*. The electronic system features allow accredited laboratories or PWSs to:

- Submit data via either upload or data entry.
- Preview the data entered. A submitting entry is allowed to edit and view only the data that it submitted.
- Submit the data *no later than midnight on the 10th* day of the month. On the 11th of each month as required by 25 Pa. Code Chapter 109, all data is cleared from *DWELR* and passed to the Pennsylvania Drinking Water Information System (PADWIS) for monthly compliance processing.
- following when the result is determined or the end of the required monitoring period as stipulated by the Department, whichever is shorter. On the 10th of each month as required by Chapter 109 of Title 25 of the Pennsylvania Code, all data is cleared from *DWELR* and passed to the Pennsylvania Drinking Water Information System (PADWIS) for monthly compliance processing.
- View error reports. Upon submittal, the data is checked and an error report is generated that can be used to correct data.
- Correct data and resubmit.

Access is via DEP Greenport: www.depgreenport.state.pa.us. The *DWELR* registration form and instructions are available on-line at www.elibrary.dep.state.pa.us/dsweb/HomePage. Search for “*DWELR*”. Please contact the DEP Greenport Helpdesk at 717-705-3768 if you need further information about setting up a user account. In addition, contact the DEP Bureau of Safe Drinking Water, Operations and Monitoring Division, PADWIS Section, at 717-787-9633 or 717-772-4018 or ra-padwis@pa.gov, for more information about *DWELR*. When reporting electronically, the laboratory should provide the laboratory results to the water supplier. The format used to report these results to the supplier is a decision to be determined mutually by the laboratory and the water supplier.

SUBSECTION B: DWRS AND CONSUMER CONFIDENCE REPORTING SYSTEM

DEP provides the following assistance tools; the tools can be found on the DEP website at www.drinkingwater.state.pa.us:

- **Drinking Water Reporting System (DWRS):** Provides dynamic reports on *inventory*, *violations* and *sample* information for water systems from PADWIS. System *monitoring* calendars may also be accessed in DWRS. Instructions on how to use DWRS can be accessed from the DEP webpage.
- **Consumer Confidence Reporting System:** Provides *detection* and *violation* information from PADWIS to assist community water systems with the preparation of the annual Consumer Confidence Reports.

SECTION 4: REPORTING RESULTS ON THE SDWA 1 FORM

The results for coliform and *E. coli* are reported on one of the following forms listed in Table 1.

Table 1: Using the Correct DEP DWELR Reporting Forms

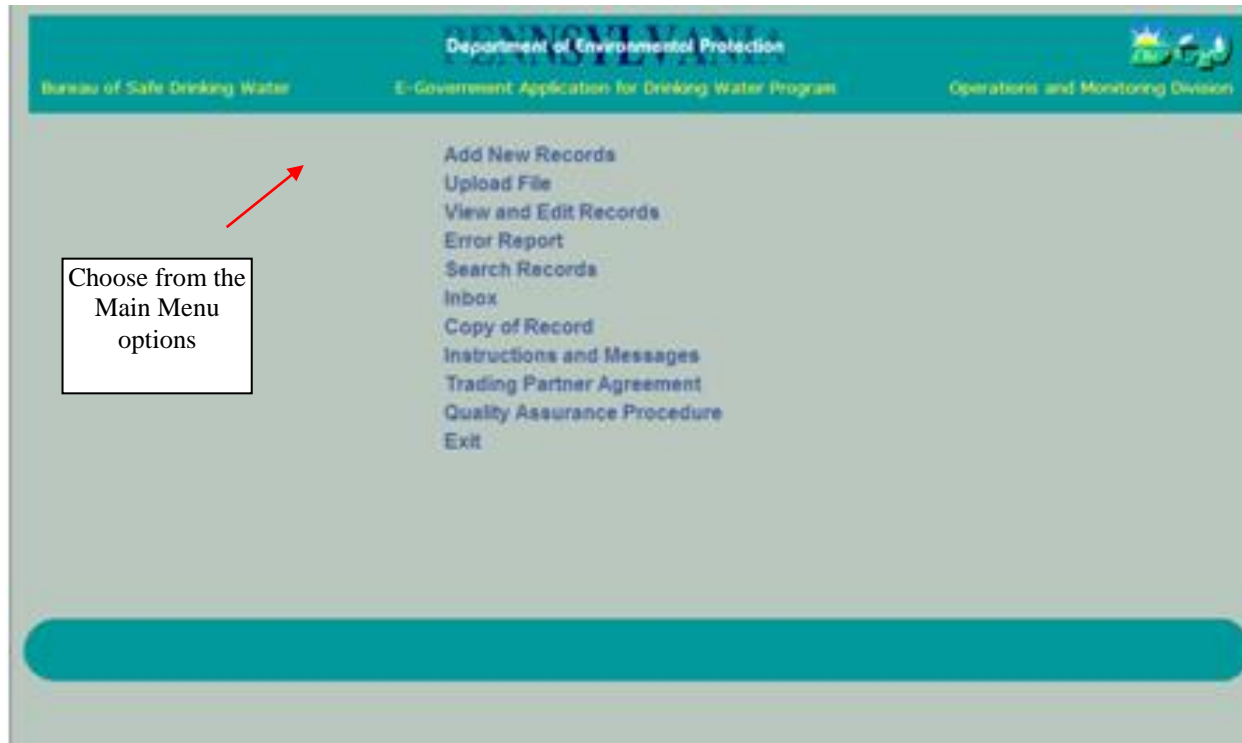
<i>Form</i>	<i>Applies to</i>	<i>Purpose</i>
SDWA-1	All Public Water Systems	<p>Report ALL</p> <ul style="list-style-type: none"> • Individual distribution system and entry point (for BVRB Systems) routine total coliform samples • Individual check samples. • Individual <i>E. coli</i> routine or check samples. • Individual triggered source water samples or other raw water sample (sample type “R”) • Surface water or GUDI source water and entry point coliform samples under the PA Filter Rule. • Special samples (sample type “S”).

The **SDWA-1** form is used to report **ALL** of the distribution system, raw water, check and entry point results for Bottled, Vended, Retail, Bulk (BVRV) water sampling

The information on the **SDWA-1** is submitted electronically through the DEP DWELR on-line pages. (Also see [Section 3: Assistance Tools](#).)

The **SDWA-1** form descriptions and a screenshot as the form appears in DWELR are on the following pages.

In DEP Greenport, enter DWELR and go to the Main Menu:



PENNSYLVANIA
Department of Environmental Protection

Bureau of Safe Drinking Water E-Government Application for Drinking Water Program Operations and Monitoring Division

WARNING! Closing the screen, moving between forms, or clicking the Browser Back button without first Submitting data you've entered could result in lost data. Please click at the bottom of the screen to save your data to the DEP Official Record.

Choose from the list of SDWA forms

SDWA-1 Bacteriological / Turbidity / Trihalomethane Data
SDWA-4 Chemical / Radiological Data
SDWA-4U Unregulated Inorganic / Organic Data
SDWA-5 Monthly Filter Plant Performance Data
SDWA-PbCu Lead & Copper Summary Data
SDWA-S Summarized Analysis Data

[Add New Records](#) [Update Data](#) [View and Edit Records](#) [Print Reports](#) [Home](#) [Help](#) [Main Menu](#) [Exit](#)

DRAFT

**SAFE DRINKING WATER ACT
SDWA-1 BACTERIOLOGICAL/RESIDUAL DISINFECTANT/TURBIDITY/DBP ANALYSIS**

PENNSYLVANIA
Department of Environmental Protection



Bureau of Safe Drinking Water

E-Government Application for Drinking Water Program

Operations and Monitoring Division

WARNING! Closing the screen, moving between forms, or clicking the Browser BACK button without first Submitting data you've entered could result in lost data. Please click at the bottom of the screen to save your data to the DEP Official Record.

SAFE DRINKING WATER ACT

SDWA 1 - BACTERIOLOGICAL / RESIDUAL DISINFECTANT / TURBIDITY / DBP ANALYSIS

SDWA-1

Current Lab Certifications			Contaminants not Requiring Certification										
	PWSID	PWS Name	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID
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**SDWA-1 BACTERIOLOGICAL/RESIDUAL
DISINFECTANT/TURBIDITY/DBP ANALYSIS FORM
INSTRUCTIONS FOR COLIFORM/
REPORTING**

DATA FIELD	DESCRIPTION
PWS ID	Enter the 7-digit identification number of the public water system to which these samples apply. FAILURE TO ENTER THE CORRECT PWS ID WILL RESULT IN THE WATER SUPPLIER NOT RECEIVING CREDIT FOR CONDUCTING THE REQUIRED MONITORING. If you do not know the PWS ID number, the local DEP or CHD office should be able to assist you with obtaining the number for a PWS. All PWS ID numbers are assigned by the local DEP or CHD office.
PWS NAME	The system automatically enters the PWS name.
CONTAMINANT (PARAMETER) ID	Enter the appropriate 4-digit contaminant identification code for Presence/Absence: for Total Coliform, enter 3100; and for <i>E. coli</i> , enter 3114. The laboratory must be certified for the parameter indicated, or the results will not be accepted. <i>E. coli</i> analyses may be reported on the same electronic SDWA-1 form as the Total Coliform results.
ANALYSIS METHOD	Enter the 3-digit code of the approved analysis method used to analyze the samples. The laboratory must be accredited to perform the method indicated, or the results will be rejected. Acceptable method codes are listed in Section 6 in this document.
ANALYSIS RESULT	If a presence or absence method was used, enter the correct code (presence (code '1'; absence code '0') to indicate the status. The enumeration (total counts/numbers) is <i>not</i> an acceptable form of reporting for either RTCR or GWR. The correct presence/absence codes must be reported to indicate the presence or absence of Coliform or <i>E. coli</i> .
ANALYSIS DATE MMDDYY	Enter the date (MMDDYY) on which the sample analysis was performed, or if the analysis spanned more than 1 day, the date on which the sample analysis result was obtained. Example: For April 15, 2016, enter 041516.

**SDWA-1 BACTERIOLOGICAL/RESIDUAL
DISINFECTANT/TURBIDITY/DBP ANALYSIS FORM
INSTRUCTIONS FOR COLIFORM/E. COLI BACTERIA REPORTING (CON'T.)**

DATA FIELD	DESCRIPTION
SAMPLE PERIOD	Enter the beginning date (MMDDYY) and the ending date (MMDDYY) for the monthly period to which these sample results apply. These dates must encompass the sample dates detailed on the form.
LOCATION ID1	<p>Enter the unique 3-digit number which identifies the location at which the sample was collected. For distribution system sample locations the ID must be between 700 and 999. Samples must be taken at regular intervals throughout the monitoring period at sites which are representative of water throughout the distribution system according to a written sample siting plan. The siting plan must be submitted by the water supplier within 30 days of notification by DEP or by April 1, 2016 as required by the Federal RTCR whichever is earlier.</p> <p>Enter the appropriate entry point location ID (e.g., 101) assigned by DEP (or the CHD) to the product line, machine, vehicle, or dispenser for BVRB systems.</p> <p>For triggered source water samples, enter the appropriate source ID (e.g., 001) assigned by DEP.</p> <p>Contact the water supplier for the correct sample location, entry point ID or source ID if it was not provided with the sample.</p> <p>Each <i>E. coli</i> analysis result, done as a follow-up to a Total Coliform-positive routine or check sample must be identified with the SAME LOCATION code as the original Total Coliform- positive sample which induced the fecal analysis.</p> <p>All <u>CHECK SAMPLES</u> for repeat monitoring following a Total Coliform-positive sample must be identified with the SAME LOCATION as the original Total Coliform-positive sample site even though some of the check samples are taken at different taps (within five service connections). This is important so that check samples can BE TIED to the routine positive sample which triggered the check samples.</p>
LOCATION ID2	BVRB Systems can use this field to enter a three character identification value that will help distinguish specific sampling locations.
SAMPLE DATE MMDDYY	<p>Enter the date on which the sample was collected.</p> <p>Example: For a sample collected on August 5, 2016, enter 080516.</p>

**SDWA-1 BACTERIOLOGICAL/RESIDUAL
DISINFECTANT/TURBIDITY/DBP ANALYSIS FORM
INSTRUCTIONS FOR COLIFORM/E. COLI BACTERIA REPORTING (CON'T.)**

DATA FIELD	DESCRIPTION
SAMPLE TYPE	<p>Enter the appropriate letter code which corresponds to the type of sample collected as follows:</p> <p>D = Distribution: Routine samples taken in the distribution system including samples collected as part of a seasonal system's start-up procedures are "D" samples.</p> <p>E = Entry Point: Routine samples for BVRB systems are "E" samples.</p> <p>C = Check: Samples taken in response to coliform-positive routine samples are "C" samples.</p> <p>S = Special: A supplier may wish to collect and have analyzed special samples to meet their own need, or may be required by DEP or a CHD to take samples to fulfill a special requirement. For example, a PWS may be ordered to take delinquent samples <u>after</u> a monitoring period has ended or the system may need samples to lift a boil water advisory. Such samples must be coded as "S" samples.</p> <p>R = Raw (source) water: Triggered source water samples taken in response to coliform-positive routine samples are "R" samples. A supplier may also wish to collect, and have analyzed, samples of raw water to meet their own particular need, such as new source sampling; such samples will not be credited toward routine monitoring requirements.</p>
SAMPLE TIME	<p>Enter the time of day at which the sample was collected. All times must be in military time. The sample day runs from 0000 to 2359. This means the last time which can be reported for a given day is for 2359 not 2400. 2400, midnight, would be reported as 0000 on the next day. This field must be completed in order for the results to be accepted. If the exact time is not known, enter an approximate time.</p> <p>Example: For 2:30 p.m., enter 1430.</p>
LAB ID	<p>Enter the 5-digit PA Laboratory Identification Number assigned to the <u>laboratory that analyzed</u> the samples. The ID number must be entered for results to be accepted. Do not use dashes or symbols.</p>
SAMPLE ID	<p>Enter the unique laboratory sample identification.</p>

The **SDWA-1 form** is used to report the results of the following individual sample analyses:

- Any *Routine (D or E)* sample analyses results.
- All *Check (C)* sample analyses.
- All *Fecal Coliform/E. coli* sample analyses.
- All *Special (S) or Raw water (R)* sample analyses (including triggered source water samples).

The following information and details about the SDWA-1 form reporting should be noted:

- The detail record must be submitted for all routine samples and for all check samples. Routine (D or E) and check (C) sample results may be submitted on the same form.
- The monitoring period should always be reported as the month in which the routine samples were collected.
- The location IDs of the check samples **must** match the location ID of the positive routine (D or E) sample on the SDWA-1 form even if the check samples are collected at a different sampling point.
- The location IDs of triggered source water samples **must** match the source IDs assigned by DEP.
- The analysis date reported on the SDWA-1 form is the date that the sample analysis was performed (i.e., the result is read), not the date the analysis was started.
- Any result determined to be invalid (by the laboratory or by DEP) cannot be used for compliance determinations and should not be reported to DEP. Replacement samples must be collected within the same monitoring period or the system will receive a monitoring violation.

SECTION 5: REQUIREMENTS AND CODES FOR REPORTING MONITORING RESULTS

Each total coliform-positive sample must be analyzed for the **presence** of fecal coliform or *E. coli* bacteria. If a public water system forgoes fecal coliform or *E. coli* testing, then any total coliform-positive sample will be presumed to be *E. coli* or fecal coliform-positive.

The specific conditions and requirements for fecal testing are listed in Table 2: Follow-up Fecal Requirements:

Table 2: Follow-up *E. coli* Testing Requirements

Condition	<i>E. coli</i> Testing Requirement
For each routine or check sample that is total <u>coliform-negative</u>	None
For each routine or check sample that is total <u>coliform-positive</u>	Analyze total coliform-positive culture medium to determine presence of fecal coliform* OR MUG ⁺ medium may be used to determine the presence of <i>E. coli</i> .
<p>* The <i>E. coli</i> analysis must be conducted in accordance with one of the following two laboratory procedures:</p> <ol style="list-style-type: none"> 1) Multiple Tube Fermentation (MTF) or Presence-Absence (P-A) Methods: Shake the lactose-positive presumptive tube or P-A bottle vigorously and transfer the growth with a sterile 3-mm loop or sterile applicator stick into brilliant green lactose bile broth and EC medium (a specific medium employed to detect fecal coliform and <i>E. coli</i>) to determine the presence of total and fecal coliforms, respectively. 2) Membrane Filter Method: Remove the membrane containing the total coliform colonies from the substrate with a sterile forceps and carefully curl and insert the membrane into a tube of EC medium. Alternatively, swab the membrane filter with a sterile cotton swab to inoculate EC medium, or inoculate individual total coliform-positive colonies into EC medium. (The laboratory may first remove a small portion of selected colonies for verification.) Gently shake the inoculated EC tubes to insure adequate mixing and incubate in a waterbath at 44.5°C for 24 hours. Gas production of any amount in the inner fermentation tube of the EC medium indicates a positive fecal coliform test. <p>+ MUG = a type of <i>E. coli</i> medium containing 4-methylumbelliferyl-β-D-glucuronide.</p>	

The **presence or absence** of coliforms must be reported for RTCR, and GWR; the enumeration (total counts/numbers) is **not** an acceptable form of reporting for either RTCR or GWR. The correct presence/absence codes must be reported to indicate the presence or absence of Coliform or *E. coli* as follows:

- PRESENCE = 1
- ABSENCE = 0

DEP method codes and contaminant codes that are approved for reporting the presence or absence of bacteriological contaminants for the RTCR and GWR are listed in Table 3: Presence/Absence Laboratory Method Codes for Reporting Coliforms and *E. coli* on the following page:

Table 3: Presence/Absence Laboratory Method Codes for Reporting Coliforms and *E. coli*

Parameter Name	EPA Analysis Method	DEP Method Code	Presence/Absence		
			Code	RTCR	GWR
<i>Two-Step Process: Determine presence of Total Coliform; if present, analyze for E. coli</i>					
<i>E. coli</i> (Total Coliform)	Membrane Filtration with m-Endo SM 9222B + SM 9222G verification	323	3114 (3100)	✓	✓
	Multiple Tube Fermentation SM 9221B + SM 9221F verification	327		✓	✓
	Presence-Absence with P-A broth SM 9221D+ SM 9221F verification	329		✓	✓
<i>Simultaneous Detection of Total Coliform and E. coli</i>					
<i>E. coli</i>	Membrane Filtration with MI Agar EPA1604	324	3114	✓	✓
	MMO-MUG (Colilert) SM 9223B	331		✓	✓
	Colisure	332		✓	✓
	m-ColiBlue24®	333		✓	✓
	E*Colite®	334		✓	✓
	Readycult® Coliforms 100 Presence/Absence Test	337		✓	✓
	Membrane Filter using Chromocult® Coliform Agar	338		✓	✓
	Colitag/modified Colitag	339		✓	✓
<i>Simultaneous Detection of Total Coliform and E. coli</i>					
Total Coliform	Membrane Filtration with MI Agar EPA 1604	324	3100	✓	
	MMO-MUG (Colilert) SM 9223B	331		✓	
	Colisure	332		✓	
	m-ColiBlue24®	333		✓	
	E*Colite®	334		✓	
	Readycult® Coliforms 100 Presence/Absence Test	337		✓	
	Membrane Filter using Chromocult® Coliform Agar	338		✓	
	Colitag/modified Colitag	339		✓	
RTCR = Revised Total Coliform Rule; GWR = Groundwater Rule *- GWR requires NA+MUG for 9222G and EC+MUG for SM 9221F Note: Analysis method codes are for laboratory analysis conducted after 7/1/2010. Not all methods in this table are applicable to the GWR: - For GWR samples; ‘Two-Step Process’ methods: Report Total Coliform result, if negative; otherwise, report <i>E. coli</i> result. - For GWR samples; ‘Simultaneous Detection’ methods: Report <i>E. coli</i> result.					

SECTION 6: MONITORING FREQUENCY REQUIREMENTS

The routine RTCR monitoring frequency requirements for systems are shown in Table 4: RTCR Monitoring Frequencies below.

Table 4: RTCR Monitoring Frequencies

System Type	Water Source*	Population	No. of Samples	Frequency
Community	Surface**/Ground	ALL	Based on Population	Monthly
Nontransient Noncommunity (NTNC)	Surface**	ALL	Based on Population	Monthly
	Ground	>1,000	Based on Population	Monthly
	Ground	<= 1,000	1	Monthly
Transient Noncommunity (TNC)	Surface**	ALL	Based on Population	Monthly
	Ground	>1,000	Based on Population	Monthly
	Ground	<= 1,000	1	Monthly
Vended	Permit by Rule	ALL	1 per Entry Point	Monthly
Bottled, Vended, Retail, Bulk (BVRB)	Surface/Ground (Not Permit by Rule)	ALL	1 per Entry Point	Weekly
<p>* - Finished water used as a source (i.e., purchased water) is considered groundwater for monitoring purposes.</p> <p>** - Including unfiltered surface water sources and groundwater under the direct influence of surface water (GUDI) sources</p>				

Reporting Deadline

All results required as part of the RTCR and GWR must be received **no later than the 10th day of the month** following the month the samples were taken for monthly reporting. Failure to submit these forms as required will result in the water supplier being charged with a violation for failure to monitor.

The number of RTCR samples required for each system based on the population served size, is shown in Table 5: Number of Samples Required Based on Population.

Table 5: Number of Samples Required Based on Population

<i>Population Served</i>	<i>Minimum Number of Samples per Month</i>
1 to 1,000	1
1,001 to 2,500	2
2,501 to 3,300	3
3,301 to 4,100	4
4,101 to 4,900	5
4,901 to 5,800	6
5,801 to 6,700	7
6,701 to 7,600	8
7,601 to 8,500	9
8,501 to 12,900	10
12,901 to 17,200	15
17,201 to 21,500	20
21,501 to 25,000	25
25,001 to 33,000	30
33,001 to 41,000	40
41,001 to 50,000	50
50,001 to 59,000	60
59,001 to 70,000	70
70,001 to 83,000	80
83,001 to 96,000	90
96,001 to 130,000	100
130,001 to 220,000	120
220,001 to 320,000	150
320,001 to 450,000	180
450,001 to 600,000	210
600,001 to 780,000	240
780,001 to 970,000	270
970,001 to 1,230,000	300
1,230,001 to 1,520,000	330
1,520,001 to 1,850,000	360
1,850,001 to 2,270,000	390
2,270,001 to 3,020,000	420
3,020,001 to 3,960,000	450
3,960,001 or more	480

Additional Requirement for PWSs using Unfiltered Surface Water or GUDI Sources

- The PWS must collect at least 1 additional distribution system (D) sample for total coliform analysis within 24 hours of each day that the turbidity level in the source water exceeds 1.0 NTU. This additional sample must be collected at a point after disinfection but near the first service connection. The 24-hour collection limit may be extended to 72 hours if the PWS adequately demonstrates a logistical problem in having the sample analyzed within 30 hours of

collection. These sample results are included RTCR compliance determinations, so the results must be reported as part of the routine RTCR compliance monitoring.

REPORTING OF *E. coli* RESULTS:

Report all *E. coli* test results on an SDWA-1 form along with the routine total coliform-positive results and check sample (for repeat monitoring) results. You must use the same location ID number as the corresponding total coliform result.

For each Total Coliform-positive sample, 3 check samples must be taken in addition to the required routine samples and must be taken according to the requirements listed in **Table 6: Check Sampling Requirements**.

Table 6: Check Sampling Requirements

Number of Routine Samples Collected Each Month	Number of Check Samples Required for Each Total Coliform-Positive Sample
1 or less	3
2 or more	3
Bottled	3
Vended, Retail and Bulk	3

Rules for Check Samples for Repeat Monitoring

When:

Check samples must be taken within 24 hours of PWS being notified of a total coliform-positive sample. DEP may extend this 24-hour collection limit on a case-by-case basis to a maximum of 72 hours if the system adequately demonstrates a logistical problem outside the system’s control in having the sample analyzed within 30 hours of collection. Check samples may be collected until five days after the end of the month (for any routine positive sample(s) collected on the last few days of the month).

All samples must be taken on the same day except that systems with a single service connection have the *option* of collecting samples over a 3 consecutive day period.

Where:

At a minimum, samples should include: 1 sample from the *same tap*, 1 sample within 5 service connections *upstream*, and 1 sample within 5 service connections *downstream* from the original total coliform-positive sample.

Where upstream or downstream sites are impossible to sample or not readily determinable, with DEP approval, alternate sites within 5 service connections may be sampled to satisfy the required number of check samples.

If systems with a single service connection collect all check samples on the same day, check samples should be collected at least 15 minutes apart. If possible those samples could be collected from different acceptable taps.

Reporting:

Report *all* check sample results on an SDWA-1 form along with the routine total coliform sample results. The same location ID number must be listed as the corresponding routine total coliform-positive “D” type sample that induced the check samples.

Positive Check Samples:

If any check samples are total coliform-positive, additional check samples must be collected in the manner specified above and must continue to be collected until *either* total coliforms are not detected *or* the MCL for *E. coli* is exceeded or an assessment is triggered, whichever comes first by the end of the month.

Triggered Source Water Samples:

When 4-log treatment of viruses is not provided for groundwater sources, the PWS must collect at least one sample from each groundwater source that is connected to the distribution system following notification of a total coliform-positive routine sample collected under RTCR.

Rules for Triggered Source Samples

When:

Sampling must be performed, within 24 hours of a PWS being notified of a total coliform-positive sample. DEP may extend this 24-hour collection limit on a case-by-case basis to a maximum of 72 hours if the system adequately demonstrates a logistical problem outside the system’s control in having the sample analyzed within 30 hours of collection.

Where:

Collect a sample at a location prior to any treatment, from each well where 4-log treatment of viruses is not provided.

Reporting:

Report all triggered source water sample results on an SDWA-1 form. The location ID of triggered source water samples must match the source ID number assigned by DEP.

SUBSECTION A: INVALIDATION OF TOTAL COLIFORM SAMPLES

Under certain conditions, *total coliform samples may be invalidated by the laboratory or total coliform-positive samples may be invalidated by DEP.*

Samples Invalidated by the Laboratory:

- A laboratory may invalidate a total coliform sample if no total coliforms are detected and one of the following three situations occurs:
 1. The sample produces a turbid culture;
 2. Confluent growth is evident; or
 3. Results are too-numerous-to-count.
- If one of the above interferences occurs, and if coliforms can be detected, the samples should be reported as any other coliform-positive sample. If coliforms cannot be detected (i.e., no gas production or no identification of distinguishable sheen colonies), then such samples need not be reported to DEP. However, the laboratory must notify the water system within 1 business day to collect a replacement sample from the same location as the original sample within 24 hours, and have it analyzed for the presence of total coliforms. In such cases, it is recommended that media which is less prone to interference from heterotrophic bacteria be used to analyze replacement samples. If necessary, resampling must continue until valid results are obtained. DEP may extend this 24-hour collection limit on a case-by-case basis to a maximum of 72 hours if the system adequately demonstrates a logistical problem outside the system's control in having the sample analyzed within 30 hours of collection.

Samples Invalidated by DEP

DEP may invalidate a total coliform-positive sample if:

- The laboratory establishes that improper sample analysis caused the total coliform-positive result.
- A water system with more than 1 service connection determines that a domestic or other non-distribution system plumbing problem exists limited to a specific service connection. Such a determination shall be based on a total coliform-positive check sample at the same tap as the original total coliform-positive sample and all other check samples within 5 service connections being total coliform-negative.
- The water system determines that a total coliform-positive sample is due to a circumstance or condition which does not reflect water quality in the distribution system.

In order for DEP to invalidate samples for any of the reasons described above, the laboratory or water supplier should submit a written request to the appropriate DEP district or CHD supervisor. The request must state the specific cause of the total coliform-positive sample and what action is being taken to correct the problem. Such potentially invalid samples and associated check samples must be reported as valid samples. DEP will then review the invalidation request and render a decision regarding the invalidation of such samples and any associated MCL violation. If it is suspected that a sample or samples might be invalidated by DEP for any of the reasons noted, additional samples should be taken and reported to avoid the possibility of a violation for failure to take the required number of samples.

Additional Information About Invalid Samples:

- Invalidated samples do not count toward the minimum number of samples required per monitoring period.
- Invalidated samples do not count toward MCL or treatment technique compliance calculations.

- DEP invalidation of total coliform-positive samples invalidates subsequent *E. coli*-positive results on the same sample.
- All laboratory invalidated samples require replacement samples within the same monitoring period.

SUBSECTION B: E. COLI PRIMARY MCL AND COLIFORM TREATMENT TECHNIQUE TRIGGERS

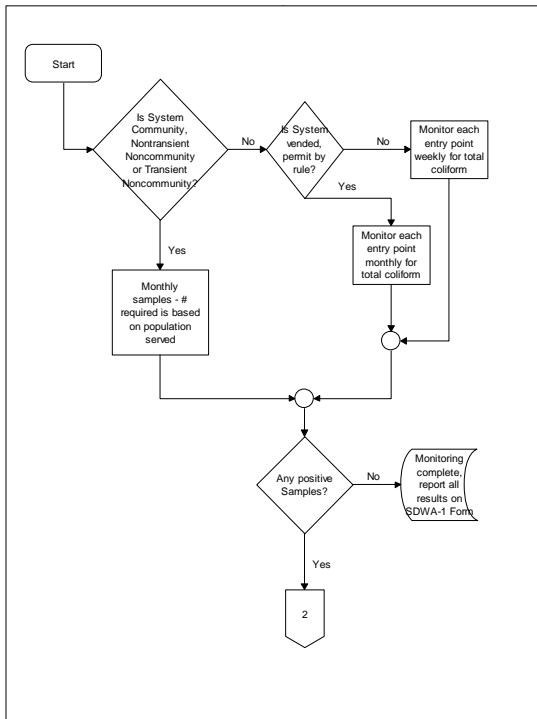
The MCL for *E. coli* is based on *presence* or *absence* (rather than enumeration) of *E. coli*, as previously described in Section 6. In addition to this MCL, there are treatment technique triggers related to presence of total coliform and/or *E. coli*, which requires a water supplier to conduct an assessment. Table 7: *E. coli* MCL Violation and Coliform Treatment Technique Trigger Determination describes the conditions for MCL violations and coliform treatment technique triggers.

Table 7: *E. coli* MCL Violation and Coliform Treatment Technique Trigger Determination

Level 1 Assessment
Trigger: For a system collecting less than 40 samples per month: <ul style="list-style-type: none"> • More than one sample is TC (+)
Trigger: For a system collecting 40 samples or more per month: <ul style="list-style-type: none"> • More than 5% of the samples collected are TC (+)
Trigger: PWS fails to take every required check sample after any single routine TC (+)
Level 2 Assessment
Trigger: An <i>E. coli</i> (+) check sample following a TC (+) routine sample.*
Trigger: A TC (+) check sample following an <i>E. coli</i> (+) routine sample.*
Trigger: The system fails to take all required check samples following an <i>E. coli</i> (+) routine sample.*
Trigger: The system fails to test for <i>E. coli</i> when any check sample tests (+) for TC*
Trigger: A second Level 1 trigger within a rolling 12-month period
*This trigger events will also cause an <i>E. coli</i> MCL violation

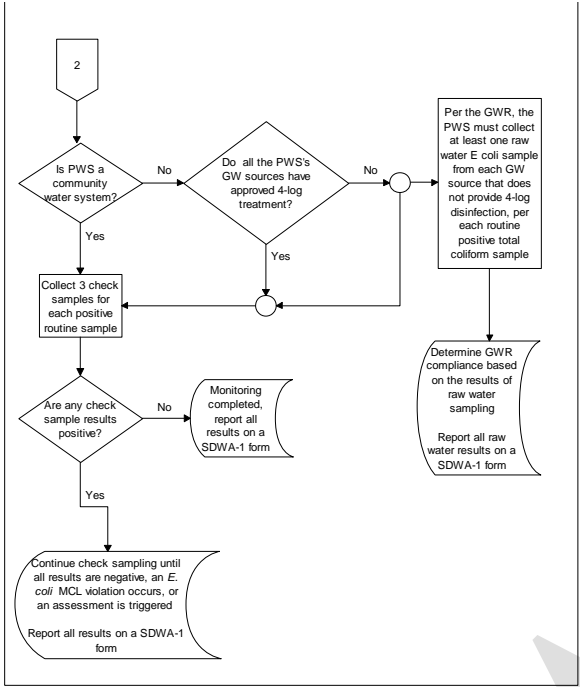
SUBSECTION C: FLOW CHARTS-RTCR MONITORING/REPORTING AND VIOLATIONS

Figure 6.1: RTCR Monitoring/Reporting Flow Chart



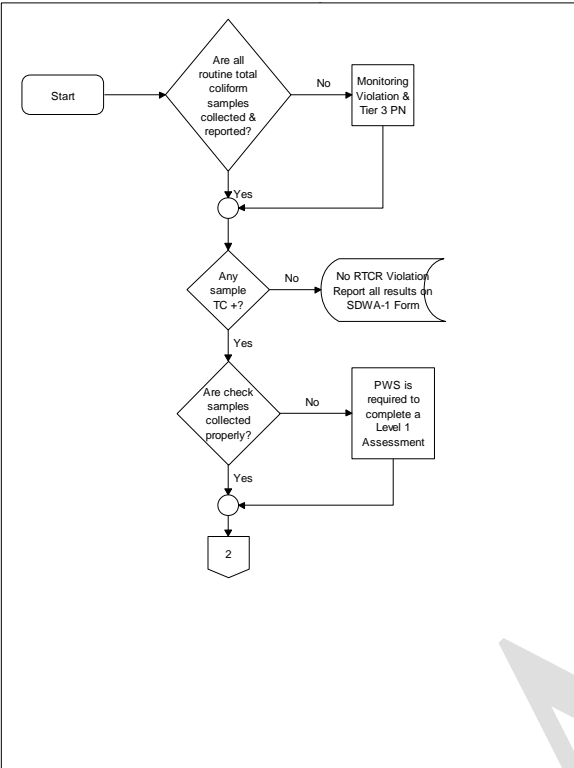
DRAFT

Figure 6.1: RTCR Monitoring/Reporting Flow Chart (continued from the previous page)



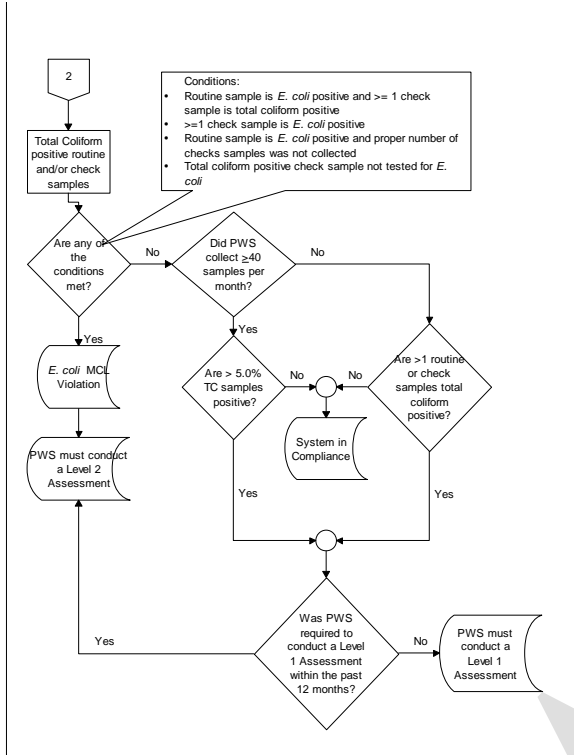
DRAFT

Figure 6.2: RTCR Violations Flow Chart



DRAFT

Figure 6.2: RTCR Violations Flow Chart (continued from the previous page)



SECTION 7: INSTRUCTIONS FOR SDWA CORRECTION FORMS

Data are entered electronically into DWELR via the SDWA forms. Refer to [Section 3](#) in this manual for more information. Laboratory reporting instructions are available at www.elibrary.dep.state.pa.us/dsweb/HomePage. Click on “Forms” folder. Search for “SDWA Corrections”.

The SDWA corrections forms are for the *correction of previously submitted data* no longer in DWELR. Omitted sample results and summary forms should be submitted through DWELR.

The two permitted methods to correct previously submitted data are as follows:

1. *A copy of a DWELR printed report of the original submission* may also be used for corrections. If using a DWELR printout, strikeout the incorrect information and write the correct information on the report; initial and date the correction. (Note: Do not strikeout the incorrect information heavily so that the original information cannot be read or faxed. Do not use a highlighter on forms to be faxed or copied.)

The following information must be included:

- The reason for the correction
 - The name of the laboratory, the authorizing personnel and the date of the corrected submission
2. *SDWA Correction forms* are shown in [Appendix III](#) in this document (examples only). To download the forms, click on the form numbers ([3900-FM-BSDW0143](#) and [3900-FM-BSDW0147](#)). The SDWA Correction forms are for the correction of previously submitted data.

Distribute SDWA corrections forms as follows:

ORIGINAL COPY - Send a copy to DEP’s central office at the following mailing or direct carrier service (UPS, FED Ex) address:

USPS

PA DEP SDWA MONITORING DATA
10TH FLOOR RCSOB
PO BOX 8467
HARRISBURG PA 17105-8467

UPS or FED Ex

PA DEP SDWA MONITORING DATA
10TH FLOOR RCSOB
400 MARKET STREET
HARRISBURG PA 17101

Corrections may be submitted by fax if requested by DEP Safe Drinking Water central office or field personnel. Obtain the fax number directly from them. Only upon specific request by DEP field personnel should corrections be sent directly to the field office instead of the central office. In this case, a copy does not need to be sent to central office.

SECOND COPY - Send a copy to the water supplier.

THIRD COPY - Retain a copy for the laboratory’s records.

SECTION 8: CASE STUDIES

Case #1: Noncommunity System-No Violation

The “Pizza Delight” restaurant (PWS ID 1234301) is a groundwater noncommunity system which must collect 1 routine sample per for total coliform analysis. This system does not provide 4-log treatment of viruses for its one well (Source ID# 001). By the membrane filter method (Analysis Method Code 325), the following result was obtained for September 2016.

<u>Sample Date</u>	<u>Analysis Date</u>	<u>Sample Type</u>	<u>TC Result</u>	<u>E. coli Result</u>
09/12/16	09/13/16	D (Distribution)	0	Not Needed

This restaurant is in compliance for this month because the sample was total coliform-negative. Triggered source water samples are not required because the routine sample was total coliform-negative.

A completed SDWA-1 form is required for this scenario.

Analysis Method Code 325 is a “two-step” method or an analysis that requires an additional step be performed should an *E. coli* analysis be required. Total coliform contaminant ID # 3100 is reported; if *E. coli* analysis is required due to a total coliform positive result, contaminant ID # 3114 would be reported in addition.

Reader’s Note: The following pages show how to enter the data and the properly completed SDWA-1 Analysis form screenshots, which would correspond to this example, as they would appear in DWELR.

Case #1/Example Screenshots:

SDWA-1 Bacteriological/Residual Disinfectant/Turbidity/DBP Analysis input screen (Analysis Method Code 325):

Department of Environmental Protection
Bureau of Safe Drinking Water
E-Government Application for Drinking Water Program
Operations and Monitoring Division

WARNING! Closing the screen, moving between forms, or clicking the Browser BACK button without first Submitting data you've entered could result in lost data. Please click at the bottom of the screen to save your data to the DEP Official Record.

SAFE DRINKING WATER ACT
SDWA 1 - BACTERIOLOGICAL / RESIDUAL DISINFECTANT / TURBIDITY / DBP ANALYSIS

SDWA-1

Current Lab Certifications		Contaminants not Requiring Certification										
PWSID	PWS Name	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID
1234301	Pizza Delight	3100	325	0	091315	700		091215	0	0800	12345	1A

To Review, Edit, or Print the record:

Department of Environmental Protection
Bureau of Safe Drinking Water E-Government Application for Drinking Water Program Operations and Monitoring Division

SAFE DRINKING WATER ACT

VIEW and EDIT RECORDS

Click here for a Printer Friendly Version
View a Monitoring Calendar

SDWA-1

Current Lab Certifications						Contaminants not Requiring Certification							
<input type="checkbox"/>	PWSID	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID	Record ID
Sort						Sort			Sort				

Main Menu

SDWA 1 (0) SDWA 4 (0) SDWA 4U (0) SDWA 5 (0) SDWA PbCu (0) SDWA 5 (1)

Add New Records Upload File View and Edit Records Error Report Search Records Index Main Menu Exit

Click here →

Click here →

Note the type of form listed →

Reader's Note: The following pages show the properly completed SDWA-1 form screenshots that correspond with this example, as they would appear in DWELR.

Note: View and Edit Records
Printer Friendly Version.

SDWA-1 Bacteriological/Residual Disinfectant/Turbidity/DBP Analysis View and Edit screen:

Department of Environmental Protection Bureau of Safe Drinking Water E-Government Application for Drinking Water Program Operations and Monitoring Division													
SAFE DRINKING WATER ACT VIEW and EDIT RECORDS Click here for a Printer Friendly Version View a Monitoring Calendar													
SDWA-1													
Current Lab Certifications						Contaminants not Requiring Certification							
<input type="checkbox"/>	PWSID	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID	Record ID
<input type="checkbox"/>	Sort			Sort	Sort			Sort			Sort		
<input type="checkbox"/>	1234301	3100	325	0.0	091315	700		091215	D	0800	12345	PR	STUDENTE_541

Case #2: Noncommunity System-Positive Routine Sample but No Violation

The “Healthy Crust” restaurant (PWS ID 1234303) is a groundwater noncommunity system that must collect 1 routine sample per month for total coliform analysis. This system does not provide 4-log treatment of viruses for its one well (Source ID# 001). Using the fermentation tube method (Analysis Method Code 327), the following results were obtained for the month of November 2015.

<u>Sample Date</u>	<u>Analysis Date</u>	<u>Sample Type</u>	<u>TC Result</u>	<u>E. coli Result</u>
11/10/15	11/11/15	D	1	0
11/11/15	11/12/15	C	0	Not Needed
11/12/15	11/13/15	C	0	Not Needed
11/13/15	11/14/15	C	0	Not Needed
11/11/15	11/12/15	R (001)	0	Not Needed*

* *E. coli* is presumed absent when total coliform is not present in this example.

Analysis Method Code 327 is also a “two-step” method versus a “simultaneous” method. When total coliform is absent under two-step analytical methods such as 323, 327, or 329, the laboratory should only report the result using the total coliform contaminant ID #3100. Note that the three analytical methods listed here are used for *E. coli* contaminant ID #3114 determinations.

There is no acute MCL violation because there are no positive check sample results. If the *E. coli* analysis had not been performed and reported in association with the routine total coliform-positive “D” sample, then DEP would automatically consider that sample to be *E. coli*-positive. However, there would still be ***no acute*** violation because none of the check samples were total coliform-positive.

All PWSs are required to collect 3 check samples for each routine sample that is total coliform positive. This is a noncommunity system with a single service connection, so the check samples may be taken over a 3-day period. In addition, because this system does not provide 4-log treatment of viruses for its well, 1 triggered source water sample is required.

A Level 1 Assessment was not triggered because only 1 sample was total coliform-positive. If 1 or more of the check samples had also been total coliform-positive, then a Level 1 Assessment would need to be conducted within 30-days of the analysis date of the sample that triggered the assessment (in this case the positive check sample). If any or all of the check samples had not been taken or reported, a Level 1 Assessment would need to be conducted within 30-days of the analysis date of the routine positive sample.

Notification: The laboratory must notify the public water supplier by telephone within 1 hour of the laboratory obtaining a positive result for the original distribution sample. If the supplier cannot be reached within that time, the laboratory must notify DEP by telephone within 2 hours of the determination with the information listed above. The laboratory must also notify the local DEP or CHD office in writing within 24 hours of discovery of the coliform-positive samples. The water supplier must, in turn, notify the local DEP or CHD office within 1 hour of knowledge of the coliform-positive samples.

Case #2/Example Screenshots:

The System Does Not Provide 4-Log Treatment of Viruses for the Groundwater Well

SDWA 1 Bacteriological/Residual Disinfectant/Turbidity/DBP Analysis (Printer Friendly) View and Edit Screen (Analysis Method Code 327):

PENNSYLVANIA Department of Environmental Protection Bureau of Safe Drinking Water E-Government Application for Drinking Water Program Operations and Monitoring Division													
SAFE DRINKING WATER ACT													
VIEW and EDIT RECORDS													
Click here for a Printer Friendly Version													
View a Monitoring Calendar													
SDWA-1													
Current Lab Certifications					Contaminants not Requiring Certification								
<input type="checkbox"/>	PWSID	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID	Record ID
Sort Entry Point Chlorine													
<input type="checkbox"/>	1234303	3100	327	1.0	111115	701		111015	D	0800	68801	PR1	STUDENTE_215
<input type="checkbox"/>	1234303	3100	327	0.0	111215	701		111115	C	1245	68801	PR2	STUDENTE_216
<input type="checkbox"/>	1234303	3100	327	0.0	111315	701		111215	C	1300	68801	PR3	STUDENTE_217
<input type="checkbox"/>	1234303	3100	327	0.0	111415	701		111315	C	1330	68801	PR4	STUDENTE_218
<input type="checkbox"/>	1234303	3114	327	0.0	111115	701		111015	D	0800	68801	PR6	STUDENTE_220

One (1) Triggered Source Water Sample ‘R’ is Required Because the System Does Not Provide 4-Log Treatment of Viruses for the Groundwater Well; therefore, additional reporting is required on the SDWA-1 form:

PENNSYLVANIA Department of Environmental Protection Bureau of Safe Drinking Water E-Government Application for Drinking Water Program Operations and Monitoring Division													
SAFE DRINKING WATER ACT													
VIEW and EDIT RECORDS													
Click here for a Printer Friendly Version													
View a Monitoring Calendar													
SDWA-1													
Current Lab Certifications					Contaminants not Requiring Certification								
<input type="checkbox"/>	PWSID	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID	Record ID
Sort Entry Point Chlorine													
<input type="checkbox"/>	1234303	3100	327	0.0	111215	001		111115	R	1330	68801	PRR	STUDENTE_221

Case #3: Noncommunity System-Acute MCL Violation and Level 2 Assessment

The “Shady Run Motel” (PWS 1234302) is a groundwater noncommunity system that must collect 1 routine sample per month for total coliform analysis. This system does not provide 4-log treatment of viruses for the single well in use (Source ID# 001). By the Colilert method (Analysis Method Code 331), the following results were obtained for the month of October 2015.

<u>Sample Date</u>	<u>Analysis Date</u>	<u>Sample Type</u>	<u>TC Result</u>	<u>E. coli Result</u>
09/30/15	10/01/15	D	1	1
10/01/15	10/02/15	C (Check)	0	N/A*
10/01/15	10/02/15	C (Check)	1	0
10/01/15	10/02/15	C (Check)	1	1
10/01/15	10/02/15	R (001)	1	1

* N/A = Not applicable. The Total Coliform results were negative; therefore no further testing was required.

In this example, the laboratory notified the department within 24 hours of the 10/01/15 results.

3 **check samples** are required when the routine sample is total coliform-positive. In addition, because this system does not provide 4-log treatment of viruses for its well, **1 triggered source water sample** is required. If the routine coliform-positive sample was collected at unit #8, then 1 check sample must be taken at unit #8, and the other 2 check samples must be taken within 5 units on both sides of unit #8. All of the check samples must be identified with the same location code as the routine sample as a means of associating these check samples with the appropriate routine sample. The triggered source water sample must be collected from a raw water tap and identified with the proper DEP-assigned source ID (001).

In this case, the routine sample was total coliform-positive and also *E. coli*-positive. At least 1 of the check samples was also total coliform-positive. This PWS would therefore have an acute MCL violation because a Distribution (D) sample was both total coliform-positive and *E. coli* -positive, and at least 1 of the associated check samples was total coliform-positive. In addition to the *E. coli* MCL violation the PWS must also conduct a Level 2 Assessment within 30-days of the analysis date of the sample that triggered the assessment (in this case the analysis date of the positive check sample).

Repeat check samples: Additional check samples would **not** be required because the system is in violation of the RTCR MCL.

Case #3/Example Screenshots:

SDWA 1 Printer Friendly View and Edit Screen (Analysis Method Code 331):

SAFE DRINKING WATER ACT													
VIEW and EDIT RECORDS													
Click here for a Printer Friendly Version													
View a Monitoring Calendar													
SDWA-1													
Current Lab Certifications						Contaminants not Requiring Certification							
<input type="checkbox"/>	PWSID	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID	Record ID
Sort													
Sort Entry Point Chlorine													
<input type="checkbox"/>	Sort							Sort			Sort		
<input type="checkbox"/>	1234302	3100	331	1.0	100115	701		093015	D	1100	23455	PR1	STUDENTE_206
<input type="checkbox"/>	1234302	3100	331	0.0	100215	701		100115	C	1310	23455	PR3	STUDENTE_208
<input type="checkbox"/>	1234302	3100	331	1.0	100215	701		100115	C	1315	23455	PR4	STUDENTE_209
<input type="checkbox"/>	1234302	3100	331	1.0	100215	701		100115	C	1320	23455	PR5	STUDENTE_210
<input type="checkbox"/>	1234302	3114	331	1.0	100115	701		093015	D	1100	23455	PR6	STUDENTE_211
<input type="checkbox"/>	1234302	3114	331	0.0	100215	701		100115	C	1315	23455	PR7	STUDENTE_212
<input type="checkbox"/>	1234302	3114	331	1.0	100215	701		100115	C	1320	23455	PR8	STUDENTE_213

Additional triggered source water samples: Because the triggered source water sample was E. coli-positive, *5 additional source water* samples are required to be collected within 24 hours of being notified of the positive source water sample unless DEP directs the system to take a corrective action.

One (1) Triggered Source Water Sample (“R”) is Required Because the System Does Not Provide 4-Log Treatment of Viruses for the Groundwater Well.

Analysis Method Code 331 is a simultaneous method; therefore a positive *E.coli* (“3114”) is reported.

PENNSYLVANIA													
Bureau of Safe Drinking Water			Department of Environmental Protection E-Government Application for Drinking Water Program						Operations and Monitoring Division				
SAFE DRINKING WATER ACT													
VIEW and EDIT RECORDS													
Click here for a Printer Friendly Version View a Monitoring Calendar													
SDWA-1													
Current Lab Certifications						Contaminants not Requiring Certification							
<input type="checkbox"/>	PWSID	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID	Record ID
	Sort							Sort			Sort		
<input type="checkbox"/>	1234302	3114	331	1.0	100210	001		100110	R	1345	23455		STUDENTE_512

Notification: *The laboratory must notify the public water supplier by telephone within 1 hour of the laboratory obtaining a positive result for the original distribution sample and again within 1 hour of the laboratory obtaining a positive E. coli result for the triggered source water sample. If the supplier cannot be reached within that time, the laboratory must notify DEP by telephone within 2 hours of the determination with the information listed above. The laboratory must also notify the local DEP or CHD office in writing within 24 hours of discovery of the coliform-positive samples. The water supplier must, in turn, notify the local DEP or CHD office within 1 hour of knowledge of the coliform-positive samples and E. coli-positive triggered source water sample.*

Case #4: Noncommunity System-Positive Routine Sample but No Violation; Positive Triggered Source Water Sample

The Bigfoot County Campground (PWS ID 1234304) is a groundwater noncommunity system that must collect 1 routine sample per month for total coliform analysis. This system does not provide 4-log treatment of viruses for its two wells (Source ID# 001 and 002). Using the membrane filter method (Method Code 323), the following results were obtained for the month of August 2015.

<u>Sample Date</u>	<u>Analysis Date</u>	<u>Sample Type</u>	<u>TC Result</u>	<u>E. coli Result</u>
08/10/15	08/11/15	D	1	0
08/11/15	08/12/15	C	0	Not Needed
08/11/15	08/12/15	C	0	Not Needed
08/11/15	08/12/15	C	0	Not Needed
08/11/15	08/12/15	R (001)	-	0
08/11/15	08/12/15	R (002)	-	1*

* Triggered source water samples are **not** used to determine compliance with an MCL; however, because a triggered source water sample was *E. coli*-positive, an acute situation exists that requires **timely notification and Tier 1 Public Notification**.

There are *no MCL violations or coliform treatment technique triggers* for this case, because only the routine distribution sample was determined to be total coliform positive.

Due to the positive routine total coliform positive sample result 3 check samples are required.

Notification: The laboratory must notify the public water supplier by telephone within 1 hour of the laboratory obtaining a positive result for the original distribution sample and again within 1 hour of the laboratory obtaining a positive *E. coli* result for the triggered source water sample. If the supplier cannot be reached within that time, the laboratory must notify DEP by telephone within 2 hours of the determination with the information listed above. The laboratory must also notify the local DEP or CHD office in writing within 24 hours of discovery of the coliform-positive sample. The water supplier must, in turn, notify the local DEP or CHD office within 1 hour of knowledge of the coliform-positive and *E. coli*-positive samples.

Additional triggered source water samples: Because one of the triggered source water samples was *E. coli*-positive, the system must take 5 additional source water samples from Source 002 within 24 hours of being notified of the positive source water sample unless DEP directs the system to take a corrective action.

Case #4/Example Screenshots:

One (1) triggered source water sample is required **per** well because the PWS does **not** provide 4-Log Treatment of viruses for the **two** groundwater wells (Locations 001 and 002).

SDWA-1 View/Edit Screen (Analysis Method Code 323):

Department of Environmental Protection Bureau of Safe Drinking Water E-Government Application for Drinking Water Program Operations and Monitoring Division													
SAFE DRINKING WATER ACT VIEW and EDIT RECORDS Click here for a Printer Friendly Version View a Monitoring Calendar													
SDWA-1													
Current Lab Certifications						Contaminants not Requiring Certification							
<input type="checkbox"/>	PWSID	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID	Record ID
<input type="checkbox"/>	Sort			Sort	Entry Point Chlorine			Sort			Sort		
<input type="checkbox"/>	1234304	3100	323	1.0	081115	701		081015	D	0800	68801	PRD1	STUDENTE_148
<input type="checkbox"/>	1234304	3100	323	0.0	081215	701		081115	C	1245	68801	PR3	STUDENTE_149
<input type="checkbox"/>	1234304	3100	323	0.0	081215	701		081115	C	1300	68801	PR4	STUDENTE_150
<input type="checkbox"/>	1234304	3100	323	0.0	081215	701		081115	C	1315	68801	PR5	STUDENTE_151
<input type="checkbox"/>	1234304	3114	323	0.0	081115	701		081015	D	0800	68801	PRD1	STUDENTE_153
<input type="checkbox"/>	1234304	3114	323	0.0	081215	001		081115	R	1345	68801	PRR1	STUDENTE_154
<input type="checkbox"/>	1234304	3114	323	1.0	081215	002		081115	R	1400	68801	PRR2	STUDENTE_155

Case #5: Community System-No Violation

Crystal Clear Water Co (PWS ID 1234004) serves a population of 6,200 and must collect 7 routine samples from its distribution system per month for total coliform analysis. This system provides 4-log treatment of viruses for its groundwater sources. By the membrane filter method (Method Code 323), the following results were obtained for the month of August 2015.

<u>Sample Date</u>	<u>Analysis Date</u>	<u>Sample Type</u>	<u>TC Result</u>	<u>E. coli Result</u>
08/01/15	08/02/15	D	0	Not Needed
08/05/15	08/06/15	D	0	Not Needed
08/12/15	08/13/15	D	0	Not Needed
08/14/15	08/15/15	D	0	Not Needed
08/19/15	08/20/15	D	0	Not Needed
08/21/15	08/22/15	D	0	Not Needed
08/22/15	08/23/15	D	0	Not Needed

Because all of the required samples were taken and were total coliform-negative, no *E. coli* analysis or check samples were required. If reported correctly, this PWS would be in compliance for the month of August. A completed **SDWA-1 form** for this example is shown below.

Case #5/Example Screenshots:

SDWA-1 View/Edit Screen (Analysis Method Code 323):

The screenshot displays the 'SAFE DRINKING WATER ACT VIEW and EDIT RECORDS' interface. It includes a header with 'Department of Environmental Protection' and 'Bureau of Safe Drinking Water'. The main content area shows a table titled 'SDWA-1' with two tabs: 'Current Lab Certifications' and 'Contaminants not Requiring Certification'. The 'Current Lab Certifications' tab is active, showing a table with columns for PWSID, Contam ID, Analysis Method, Result, Analysis Date, Location ID 1, Location ID 2, Sample Date, Sample Type, Sample Time, Lab ID, Sample ID, and Record ID. The table contains 7 rows of data for 'Sort Entry Point Chlorine' with results of 0.0.

SAFE DRINKING WATER ACT													
VIEW and EDIT RECORDS													
Click here for a Printer Friendly Version													
View a Monitoring Calendar													
SDWA-1													
Current Lab Certifications						Contaminants not Requiring Certification							
<input type="checkbox"/>	PWSID	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID	Record ID
<input type="checkbox"/>	Sort			Sort	Sort Entry Point Chlorine			Sort			Sort		
<input type="checkbox"/>	1234004	3100	323	0.0	080215	702		080115	D	0800	30323	PR1	STUDENTE_543
<input type="checkbox"/>	1234004	3100	323	0.0	080615	702		080515	D	0810	30323	PR2	STUDENTE_544
<input type="checkbox"/>	1234004	3100	323	0.0	081315	702		081215	D	0800	30323	PR3	STUDENTE_545
<input type="checkbox"/>	1234004	3100	323	0.0	081515	702		081415	D	0815	30323	PR4	STUDENTE_546
<input type="checkbox"/>	1234004	3100	323	0.0	082015	702		081915	D	0805	30323	PR5	STUDENTE_547
<input type="checkbox"/>	1234004	3100	323	0.0	082215	702		082115	D	0820	30323	PR6	STUDENTE_548
<input type="checkbox"/>	1234004	3100	323	0.0	082315	702		082215	D	0825	30323	PR7	STUDENTE_549

Case #6: Community System-Level 1 Assessment

The Great Aquifer Water Company (PWS ID 1234005) serves a population of 12,750. The PWS must collect and analyze 10 routine total coliform samples from several (5 in total) locations within the distribution system per month. This system provides 4-log treatment of viruses for its groundwater sources. The following results were obtained for the month of September 2015 by the fermentation tube method (Method Code 327):

<u>Sample Date</u>	<u>Analysis Date</u>	<u>Sample Type</u>	<u>TC Result</u>	<u>E. coli Result</u>
09/01/15	09/02/15	D	0	Not Needed
09/03/15	09/04/15	D	0	Not Needed
09/05/15	09/06/15	D	1	0
09/07/15	09/08/15	C	0	Not Needed
09/07/15	09/08/15	C	0	Not Needed
09/07/15	09/08/15	C	1	0
09/09/15	09/10/15	D	0	Not Needed
09/12/15	09/13/15	D	0	Not Needed
09/14/15	09/15/15	D	0	Not Needed
09/15/15	09/16/15	D	1	0
09/17/15	09/18/15	C	0	Not Needed
09/17/15	09/18/15	C	0	Not Needed
09/17/15	09/18/15	C	0	Not Needed
09/19/15	09/20/15	D	0	Not Needed
09/21/15	09/22/15	D	0	Not Needed
09/22/15	09/23/15	D	0	Not Needed

Two distribution samples, 09/05/15 and 09/15/15, were total coliform-positive. Both samples were found, in the second step of the method, to be *E. coli* -negative. Three check samples were analyzed in response to each of the positive distribution samples. One of the check samples on 09/07/15 was found to be total coliform-positive, but *E. coli*-negative. Because this PWS took less than 40 samples and 3 samples were found to be total coliform-positive, this PWS is required to conduct a Level 1 Assessment. The positive check sample on 09/07/15 is included in determining compliance with this requirement.

Normally, the PWS staff would be required to take 3 additional check samples in response to the total coliform-positive check sample on 09/07/15. However, because 2 total coliform-positive samples (1 routine and 1 check) had been analyzed and a Level 1 Assessment has already been triggered, the additional check samples in response to the positive check sample are not necessary.

The PWS is **not**, however, exempt from taking 3 check samples in response to the positive distribution sample on 09/15/15. ***Check samples must be taken in response to all positive routine distribution samples.*** If *E. coli* were detected in any of the check samples, the PWS would also have an acute violation in addition to triggering an assessment. The following pages show the properly completed SDWA-1 forms as they would appear in DWELR.

Case #6/Example Screenshots:

Notification: The laboratory must notify the public water supplier by telephone within 1 hour of the laboratory obtaining a positive result for the original distribution sample. If the supplier cannot be reached within that time, the laboratory must notify DEP by telephone within 2 hours of the determination with the information listed above. The laboratory must also notify the local DEP or CHD office in writing within 24 hours of discovery of the coliform-positive samples. The water supplier must, in turn, notify the local DEP or CHD office within 1 hour of knowledge of the coliform-positive samples.

SDWA-1 View and Edit Records screen (Analysis Method Code 327):

SAFE DRINKING WATER ACT													
VIEW and EDIT RECORDS													
Click here for a Printer Friendly Version													
View a Monitoring Calendar													
SDWA-1													
Current Lab Certifications						Contaminants not Requiring Certification							
<input type="checkbox"/>	PWSID	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID	Record ID
	Sort				Sort Entry Point Chlorine			Sort			Sort		
<input type="checkbox"/>	1234005	3100	327	0.0	090215	701		090115	D	1100	12345	pr01	STUDENTE_550
<input type="checkbox"/>	1234005	3100	327	0.0	090415	702		090315	D	1110	12345	pr02	STUDENTE_551
<input type="checkbox"/>	1234005	3100	327	1.0	090615	703		090515	D	1050	12345	pr03a	STUDENTE_552
<input type="checkbox"/>	1234005	3114	327	0.0	090615	703		090515	D	1050	12345	pr03b	STUDENTE_553
<input type="checkbox"/>	1234005	3100	327	0.0	090815	703		090715	C	1050	12345	pr04	STUDENTE_554
<input type="checkbox"/>	1234005	3100	327	0.0	090815	703		090715	C	1100	12345	pr05	STUDENTE_555
<input type="checkbox"/>	1234005	3100	327	1.0	090815	703		090715	C	1110	12345	pr06a	STUDENTE_556
<input type="checkbox"/>	1234005	3114	327	0.0	090815	703		090715	C	1110	12345	pr06b	STUDENTE_557
<input type="checkbox"/>	1234005	3100	327	0.0	091015	704		090915	D	0800	12345	pr07	STUDENTE_558
<input type="checkbox"/>	1234005	3100	327	0.0	091315	705		091215	D	0810	12345	pr08	STUDENTE_559
<input type="checkbox"/>	1234005	3100	327	0.0	091515	706		091415	D	0750	12345	pr09	STUDENTE_560
<input type="checkbox"/>	1234005	3100	327	1.0	091615	707		091515	D	0800	12345	pr10a	STUDENTE_561
<input type="checkbox"/>	1234005	3114	327	0.0	091615	707		091515	D	0800	12345	pr10b	STUDENTE_562
<input type="checkbox"/>	1234005	3100	327	0.0	091815	707		091715	C	0900	12345	pr11	STUDENTE_563
<input type="checkbox"/>	1234005	3100	327	0.0	091815	707		091715	C	0910	12345	pr12	STUDENTE_564
<input type="checkbox"/>	1234005	3100	327	0.0	091815	707		091715	C	0800	12345	pr13	STUDENTE_565
<input type="checkbox"/>	1234005	3100	327	0.0	092015	708		091915	D	1310	12345	pr14	STUDENTE_566
<input type="checkbox"/>	1234005	3100	327	0.0	092215	709		092115	D	1250	12345	pr15	STUDENTE_567
<input type="checkbox"/>	1234005	3100	327	0.0	092315	710		092215	D	1300	12345	pr16	STUDENTE_568

Note: The last sample date entry appears at the bottom, in this example; sample dates can be sorted as needed.

Case #7: Community System-Positive Routine and Check Total Coliform Samples No Violation

The Urban Consolidated Water Authority (PWS ID 1234006) serves a population of 122,000 and must collect 100 routine samples from its distribution system per month for total coliform analysis. This system uses surface water sources. By the *presence/absence* method (Method Code 329), all routine distribution samples for the month of October 2015 were negative except for 3 samples. The results of the 3 total coliform-positive samples and the associated check samples are shown below:

<u>Sample Date</u>	<u>Analysis Date</u>	<u>Sample Type</u>	<u>TC Result</u>	<u>E. coli Result</u>
10/07/15	10/08/15	D	1	0
10/09/15	10/10/15	C	0	Not Needed
10/09/15	10/10/15	C	1	0
10/09/15	10/10/15	C	0	Not Needed
10/11/15	10/12/15	C	0	Not Needed
10/11/15	10/12/15	C	0	Not Needed
10/11/15	10/12/15	C	0	Not Needed
10/07/15	10/08/15	D	1	0
10/09/15	10/10/15	C	0	Not Needed
10/09/15	10/10/15	C	0	Not Needed
10/09/15	10/10/15	C	0	Not Needed
10/08/15	10/09/15	D	1	0
10/11/15	10/12/15	C	0	Not Needed
10/11/15	10/12/15	C	0	Not Needed
10/11/15	10/12/15	C	0	Not Needed

A total of 109 samples were taken - 100 routine samples plus 9 check samples. There were a total of 4 total coliform-positive samples; 3 routine samples plus 1 check sample. According to the calculation below, 3.7 percent of the samples were total coliform-positive:

$$[4 \text{ (positive samples)} \div 109 \text{ (total samples)}] \times 100 = 3.67\% \text{ (which rounds to 3.7\%)}$$

For a PWS taking 40 or more samples per month, if *more than 5.0* percent of all the samples taken are total coliform-positive then a Level 1 Assessment is triggered. In this example, only 3.7 percent of the samples taken were total coliform-positive. Therefore, an assessment is not required.

The following pages show a portion of the properly completed SDWA-1 forms as they would appear in DWELR.

Notification: The laboratory must notify the public water supplier by telephone within 1 hour of the laboratory obtaining a positive result for the original distribution sample. If the supplier cannot be reached within that time, the laboratory must notify DEP by telephone within 2 hours of the determination with the information listed above. The laboratory must also notify the local DEP or CHD office in writing within 24 hours of discovery of the coliform-positive samples. The water supplier must, in turn, notify the local DEP or CHD office within 1 hour of knowledge of the coliform-positive samples.

SDWA-1 View and Edit Records screen (Analysis Method Code 329):

Department of Environmental Protection Bureau of Safe Drinking Water													
E-Government Application for Drinking Water Program													
Operations and Monitoring Division													
SAFE DRINKING WATER ACT VIEW and EDIT RECORDS Click here for a Printer Friendly Version View a Monitoring Calendar													
SDWA-1													
Current Lab Certifications						Contaminants not Requiring Certification							
<input type="checkbox"/>	PWSID	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID	Record ID
<input type="checkbox"/>	Sort				Sort Entry Point Chlorine			Sort			Sort		
<input type="checkbox"/>	1234006	3100	329	1.0	100915	722		100715	D	0745	68000	7223TC2+	STUDENTE_580
<input type="checkbox"/>	1234006	3100	329	0.0	101015	722		100915	C	1045	68000	72211TC2+C	STUDENTE_581
<input type="checkbox"/>	1234006	3100	329	0.0	101015	722		100915	C	1100	68000	72212TC2+C2	STUDENTE_582
<input type="checkbox"/>	1234006	3100	329	0.0	101015	722		100915	C	1115	68000	72213TC2+C3	STUDENTE_583
<input type="checkbox"/>	1234006	3114	329	0.0	100915	722		100715	D	0745	68000	7224FC2-	STUDENTE_584
<input type="checkbox"/>	1234006	3100	329	1.0	100915	725		100815	D	0900	68000	7255TC3+	STUDENTE_585
<input type="checkbox"/>	1234006	3100	329	0.0	101215	725		101115	C	1030	68000	72514TC3+3	STUDENTE_586
<input type="checkbox"/>	1234006	3100	329	0.0	101215	725		101115	C	1045	68000	72515TC3+C2	STUDENTE_587
<input type="checkbox"/>	1234006	3100	329	0.0	101215	725		101115	C	1015	68000	72516TC3+C3	STUDENTE_588
<input type="checkbox"/>	1234006	3114	329	0.0	100915	725		100815	D	0900	68000	7256FC3-	STUDENTE_589
<input type="checkbox"/>	1234006	3100	329	1.0	100815	721		100715	D	0830	68000	7211TC+	STUDENTE_590
<input type="checkbox"/>	1234006	3100	329	0.0	101015	721		100915	C	1100	68000	7217TC+C	STUDENTE_591
<input type="checkbox"/>	1234006	3100	329	1.0	101015	721		100915	C	1115	68000	7218TC+C2	STUDENTE_592
<input type="checkbox"/>	1234006	3100	329	0.0	101015	721		100915	C	1130	68000	72110TC+C3	STUDENTE_593
<input type="checkbox"/>	1234006	3114	329	0.0	100815	721		100715	D	0830	68000	7212FC-	STUDENTE_594
<input type="checkbox"/>	1234006	3100	329	0.0	101215	721		101115	C	1100	68000	7212C1C	STUDENTE_598
<input type="checkbox"/>	1234006	3100	329	0.0	101215	721		101115	C	1115	68000	7212C2C	STUDENTE_599
<input type="checkbox"/>	1234006	3100	329	0.0	101215	721		101115	C	1130	68000	7212C3C	STUDENTE_600

Case #8: Community System-Acute MCL Violation and Level 2 Assessment (Resulting from a Failure to Analyze for *E. coli*)

The Bull Run Water Company (PWS ID 1234007) serves a population of 7,500. The PWS must take 8 monthly total coliform samples. This system provides 4-log treatment of viruses for its groundwater sources. Using the presence-absence method (Method Code 328), the following results were obtained for the month of December 2014.

<u>Sample Date</u>	<u>Analysis Date</u>	<u>Sample Type</u>	<u>TC Result</u>	<u><i>E. coli</i> Result</u>
12/02/14	12/03/14	D	0	Not Needed
12/05/14	12/06/14	D	0	Not Needed
12/09/14	12/10/14	D	1	Not Reported*
12/11/14	12/12/14	C	1	Not Reported*
12/11/14	12/12/14	C	0	Not Needed
12/11/14	12/12/14	C	0	Not Needed
12/12/14	12/13/14	D	0	Not Needed
12/16/14	12/17/14	D	0	Not Needed
12/19/14	12/20/14	D	0	Not Needed
12/23/14	12/24/14	D	0	Not Needed
12/26/14	12/27/14	D	0	Not Needed

** - The routine distribution system sample taken on December 09, 2014 was total coliform-positive, but either the PWS asked the laboratory not to analyze for *E. coli* or the laboratory failed to analyze for *E. coli*. Under such circumstances, **DEP assumes that the total coliform-positive sample is also *E. coli*-positive.** One of the check samples (taken on December 11, 2014) was also total coliform-positive and no *E. coli* analysis results were reported. It, too, is assumed to be *E. coli*-positive. This combination of events results in an **acute** violation for the water supplier. In addition to the acute violation the PWS is required to conduct a Level 2 Assessment within 30 days of the analysis of the sample that triggered the assessment (in this case the assessment must be completed by 1/11/15).*

Notification: The laboratory must notify the public water supplier by telephone within 1 hour of the laboratory obtaining a positive result for the original distribution sample. If the supplier cannot be reached within that time, the laboratory must notify DEP by telephone within 2 hours of the determination with the information listed above. The laboratory must also notify the local DEP or CHD office in writing within 24 hours of discovery of the coliform-positive samples. The water supplier must, in turn, notify the local DEP or CHD office within 1 hour of knowledge of the coliform-positive samples.

Case #8/Example Screenshots:

SDWA-1 View and Edit Records screen (Analysis Method Code 328):

PENNSYLVANIA Department of Environmental Protection E-Government Application for Drinking Water Program Bureau of Safe Drinking Water Operations and Monitoring Division															
SAFE DRINKING WATER ACT VIEW and EDIT RECORDS Click here for a Printer Friendly Version View a Monitoring Calendar															
SDWA-1															
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align: center;">Current Lab Certifications</td> <td style="width:50%; text-align: center;">Contaminants not Requiring Certification</td> </tr> </table>														Current Lab Certifications	Contaminants not Requiring Certification
Current Lab Certifications	Contaminants not Requiring Certification														
<input type="checkbox"/>	PWSID	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID	Record ID		
<input type="checkbox"/>	Sort			Sort	Sort Entry Point Chlorine			Sort			Sort				
<input type="checkbox"/>	1234007	3100	328	0.0	120314	703		120214	D	0800	01888	1PRTC	STUDENTE_576		
<input type="checkbox"/>	1234007	3100	328	0.0	120614	703		120514	D	0810	01888	2PRTC	STUDENTE_577		
<input type="checkbox"/>	1234007	3100	328	1.0	121014	704		120914	D	1010	01888	3PRTC+	STUDENTE_187		
<input type="checkbox"/>	1234007	3100	328	1.0	121214	704		121114	C	0945	01888	9PRTC+C+	STUDENTE_188		
<input type="checkbox"/>	1234007	3100	328	0.0	121214	704		121114	C	1000	01888	10PRTC+C-	STUDENTE_189		
<input type="checkbox"/>	1234007	3100	328	0.0	121214	704		121114	C	1020	01888	11PRTC+C2-	STUDENTE_190		
<input type="checkbox"/>	1234007	3100	328	0.0	121314	704		121214	D	1000	01888	4PRTC	STUDENTE_571		
<input type="checkbox"/>	1234007	3100	328	0.0	121714	705		121614	D	0830	01888	5PRTC	STUDENTE_572		
<input type="checkbox"/>	1234007	3100	328	0.0	122014	705		121914	D	0845	01888	6PRTC	STUDENTE_573		
<input type="checkbox"/>	1234007	3100	328	0.0	122414	706		122314	D	0915	01888	7PRTC	STUDENTE_574		
<input type="checkbox"/>	1234007	3100	328	0.0	122714	706		122614	D	0930	01888	8PRTC	STUDENTE_575		

Note: The required follow-up *E. coli* analysis was missed on 2 total coliform-positive samples.

Case #9: Community System-Monitoring Violation and Level 1 Assessment

The Executive Estates Water Company (PWS ID 1234008) has 2 wells serving 4,500 people, and must take 5 monthly total coliform samples. This system provides 4-log treatment of viruses for its groundwater sources. By the membrane filter method (Method Code 325), the following results were reported for the month of October 2015.

<u>Sample Date</u>	<u>Analysis Date</u>	<u>Sample Type</u>	<u>TC Result</u>	<u>E. coli Result</u>
10/07/15	10/08/15	D	0	Not Needed
10/14/15	10/15/15	D	0	Not Needed
10/21/15	10/22/15	D	1	0
10/23/15	10/24/15	C	0	Not Needed
10/23/15	10/24/15	C	0	Not Needed

Monitoring Violation and Level 1 Assessment Requirement:

Only 3, instead of 5, routine distribution system sample results were reported. Therefore, a monitoring violation exists. In addition, 1 of the samples was total coliform-positive, and only 2, instead of 3 check samples were reported. Therefore, the PWS is also required to conduct a Level 1 Assessment within 32 days after the analysis date of the sample that triggered the assessment (in this case the trigger date is 10/22/15, the analysis date of the positive sample that required the check sample that was missed). The following page show the properly completed SDWA-1 form as they would appear in DWELR.

The laboratory should have notified the public water supplier by telephone within 1 hour of the laboratory obtaining a positive result for the original distribution sample. If the supplier cannot be reached within that time, the laboratory must notify DEP by telephone within 2 hours of the determination with the information listed above. The laboratory must also notify the local DEP or CHD office in writing within 24 hours of discovery of the coliform-positive samples. The water supplier must, in turn, notify the local DEP or CHD office within 1 hour of knowledge of the coliform-positive samples.

Case 9/Example Screenshots:

SDWA-1 View and Edit Records screen (Analysis Method Code 325):

Bureau of Safe Drinking Water
Department of Environmental Protection
E-Government Application for Drinking Water Program
Operations and Monitoring Division

SAFE DRINKING WATER ACT

VIEW and EDIT RECORDS

[Click here for a Printer Friendly Version](#)

[View a Monitoring Calendar](#)

SDWA-1

Current Lab Certifications					Contaminants not Requiring Certification								
<input type="checkbox"/>	PWSID	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID	Record ID
	Sort		Sort Entry Point Chlorine					Sort			Sort		
<input type="checkbox"/>	1234008	3100	325	0.0	101515	703		101415	D	0830	30223	2PRTC-	STUDENTE_192
<input type="checkbox"/>	1234008	3100	325	0.0	102415	703		102315	C	1100	30223	1PRTC+C	STUDENTE_193
<input type="checkbox"/>	1234008	3100	325	0.0	102415	703		102315	C	1200	30223	2PRTC+C2	STUDENTE_194
<input type="checkbox"/>	1234008	3113	325	0.0	102215	703		102115	D	0815	30223	3PRFC-	STUDENTE_195
<input type="checkbox"/>	1234008	3100	325	1.0	102215	703		102115	D	0815	30223	3PRFC+	STUDENTE_578
<input type="checkbox"/>	1234008	3100	325	0.0	100815	703		100715	D	0800	30223	1PRTC-	STUDENTE_579

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**APPENDIX I:
DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) AND COUNTY
HEALTH DEPARTMENT (CHD) OFFICES CONTACT LIST-Revised 2015**

County	Address	Telephone #
Adams	York District Office 150 Roosevelt Ave., Ste. 200, York, PA 17401	717-771-4481
Allegheny	Allegheny County Health Department 3901 Penn Ave., Bldg. 5, Pittsburgh, PA 15224	412-578-8047
Armstrong	New Stanton District Office 131 Broadview Rd., New Stanton, PA 15672	724-925-5500
Beaver	Beaver Falls District Office 715 15 th St., Beaver Falls, PA 15010	724-847-5270
Bedford	Altoona District Office 3001 Fairway Dr., Altoona, PA 16602	814-946-7292
Berks	Reading District Office 1005 Cross Roads Blvd., Reading, PA 19605	610-916-0100
Blair	Altoona District Office 3001 Fairway Dr., Altoona, PA 16602	814-946-7292
Bradford	Mansfield District Office 600 Gateway Dr., Mansfield, PA 16933	570-662-0830
Bucks	Southeast Regional Office 2 E. Main St., Norristown, PA 19401	484-250-5980
Butler	New Castle District Office 121 N. Mill St., New Castle, PA 16101	724-656-3160
Cambria	Cambria District Office 286 Industrial Park Rd., Ebensburg, PA 15931	814-472-1900
Cameron	Moshannon District Office 186 Enterprise Dr., Philipsburg, PA 16866	814-342-8200
Carbon	Pottsville District Office 5 W. Laurel Blvd., Pottsville, PA 17901	570-621-3118
Centre	Moshannon District Office 186 Enterprise Dr., Philipsburg, PA 16866	814-342-8200
Chester	Norristown Regional Office 2 E. Main St., Norristown, PA 19401	484-250-5980
Clarion	Knox District Office P.O. Box 669, Knox, PA 16232	814-797-1191
Clearfield	Moshannon District Office 186 Enterprise Dr., Philipsburg, PA 16866	814-342-8200
Clinton	Moshannon District Office 186 Enterprise Dr., Philipsburg, PA 16866	814-342-8200
Columbia	Sunbury District Office 309 N. 5 th St., Ste D, Sunbury, PA 17801	570-988-5500
Crawford	Northwest Regional Office 230 Chestnut St., Meadville, PA 16335	814 -332-6899
Cumberland	York District Office 150 Roosevelt Ave., Ste. 200, York, PA 17401	717-771-4481
Dauphin	Southcentral Regional Office 909 Elmerton Ave., Harrisburg, PA 17110	717-705-4708
Delaware	Southeast Regional Office 2 E. Main St., Norristown, PA 19401	484-250-5980
Elk	Warren District Office 321 N. State St., North Warren, PA 16365	814-723-3273

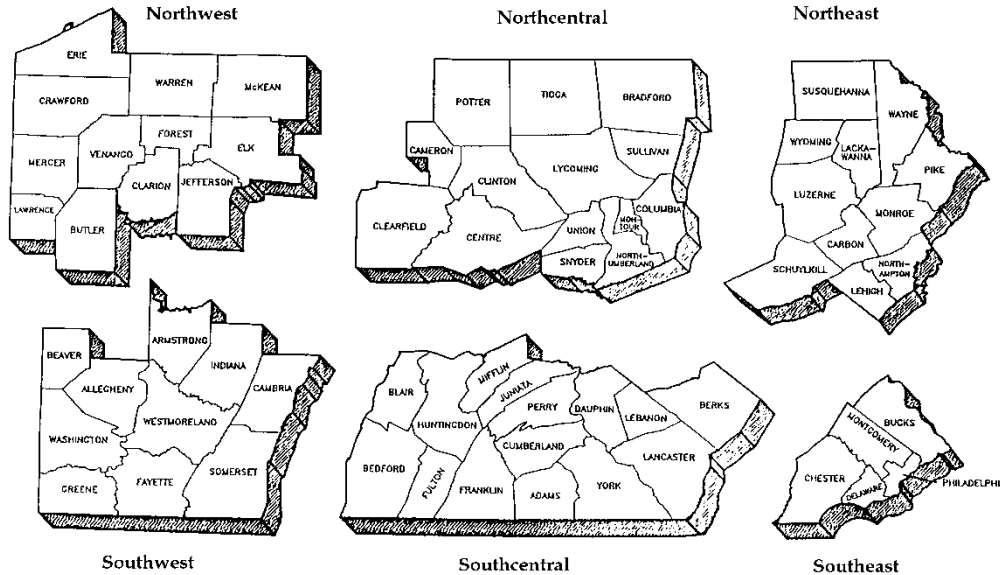
**APPENDIX I:
DEPARTMENT AND ENVIRONMENTAL PROTECTION (DEP)
AND COUNTY HEALTH DEPARTMENT (CHD) OFFICES CONTACT LIST-Revised 2015,
continued**

County	Address		Telephone #
Erie	<i>For Community & Nontransient PWS:</i>	<i>For Transient PWS:</i>	Warren: 814-723-3273
Note: address differs depending on system type	Warren District Office 321 N. State St. North Warren, PA 16365	Erie County Health Dept. Drinking Water Program 606 W. Second St., Erie, PA 16507	Erie CHD: 814-451-6700
Fayette	California District Office 25 Technology Dr., Coal Center, PA 15423		724-769-1100
Forest	Warren District Office 321 N. State St., North Warren, PA 16365		814-723-3273
Franklin	York District Office 150 Roosevelt Ave., Ste. 200, York, PA 17401		717-771-4481
Fulton	York District Office 150 Roosevelt Ave., Ste. 200, York, PA 17401		717-771-4481
Greene	California District Office 25 Technology Dr., Coal Center, PA 15423		724-769-1100
Huntingdon	Altoona District Office 3001 Fairway Dr., Altoona, PA 16602-4473		814-946-7292
Indiana	Cambria District Office 286 Industrial Park Rd., Ebensburg, PA 15931-4119		814-472-1900
Jefferson	Knox District Office P.O. Box 669, Knox, PA 16232		814-797-1191
Juniata	Southcentral Regional Office 909 Elmerton Ave., Harrisburg, PA 17110		717-705-4708
Lackawanna	Scranton District Office 321 Spruce St., Ste. 300, Scranton, PA 18503		570-963-4521
Lancaster	Lancaster District Office 1661 Old Philadelphia Pike, Lancaster, PA 17602		717-299-7601
Lawrence	New Castle District Office 121 N. Mill St., New Castle, PA 16101		724-656-3160
Lebanon	Lancaster District Office 1661 Old Philadelphia Pike, Lancaster, PA 17602		717-299-7601
Lehigh	Bethlehem District Office 4530 Bath Pike, Bethlehem, PA 18017		610-861-2070
Luzerne	Northeast Regional Office 2 Public Square, Wilkes-Barre, PA 18701-1915		570-826-2511
Lycoming	Northcentral Regional Office 208 W. Third St., Ste. 101, Williamsport, PA 17701		570-327-3490
McKean	Warren District Office 321 N. State St., North Warren, PA 16365		814-723-3273
Mercer	<i>Southern Mercer County:</i>	<i>Northern Mercer County:</i>	New Castle: 724-656-3160
	New Castle District Office 121 N. Mill St. New Castle, PA 16101	Northwest Regional Office 230 Chestnut St., Meadville, PA 16335	Meadville: 814 -332-6899
Mifflin	Altoona District Office 3001 Fairway Dr., Altoona, PA 16602-4473		814-946-7292
Monroe	Pocono District Office 2174B Route 611, Swiftwater, PA 18370		570-895-4040
Montgomery	Southeast Regional Office 2 E. Main St., Norristown, PA 19401		484-250-5980

**APPENDIX I:
DEPARTMENT AND ENVIRONMENTAL PROTECTION (DEP)
AND COUNTY HEALTH DEPARTMENT (CHD) OFFICES CONTACT LIST-Revised 2015,
continued**

County	Address	Telephone #
Montour	Sunbury District Office 309 N. 5 th St., Ste. D, Sunbury, PA 17801	570-988-5500
Northampton	Bethlehem District Office 4530 Bath Pike, Bethlehem, PA 18017	610-861-2070
Northumberland	Sunbury District Office 309 N. 5 th St., Ste. D, Sunbury, PA 17801	570-988-5500
Perry	Southcentral Regional Office 909 Elmerton Ave., Harrisburg, PA 17110	717-705-4708
Philadelphia	Southeast Regional Office 2 E. Main St., Norristown, PA 19401	484-250-5980
Pike	Pocono District Office 2174B Route 611, Swiftwater, PA 18370	570-895-4040
Potter	Mansfield District Office 600 Gateway Dr., Mansfield, PA 16933	570-662-0830
Schuylkill	Pottsville District Office 5 W. Laurel Blvd., Pottsville, PA 17901-2454	570-621-3118
Snyder	Sunbury District Office 309 N. 5 th St., Ste. D, Sunbury, PA 17801	570-988-5500
Somerset	Cambria District Office 286 Industrial Park Rd., Ebensburg, PA 15931-4119	814-472-1900
Sullivan	Mansfield District Office 600 Gateway Dr., Mansfield, PA 16933	570-327-0830
Susquehanna	Scranton District Office 321 Spruce St., Ste. 300, Scranton, PA 18503	570-963-4521
Tioga	Mansfield District Office 600 Gateway Dr., Mansfield, PA 16933	570-662-0830
Union	Sunbury District Office 309 N. 5 th St., Ste. D, Sunbury, PA 17801	570-988-5500
Venango	New Castle District Office 121 N. Mill St., New Castle, PA 16101	724-656-3160
Warren	Warren District Office 321 N. State St., North Warren, PA 16365	814-723-3273
Washington	Beaver Falls District Office 715 15 th St., Beaver Falls, PA 15010	724-847-5270
Wayne	Scranton District Office 321 Spruce St., Ste. 300, Scranton, PA 18503	570-963-4521
Westmoreland	New Stanton District Office 131 Broadview Rd., New Stanton, PA 15672	724-925-5500
Wyoming	Northeast Regional Office 2 Public Square, Wilkes-Barre, PA 18701-1915	570-826-2511
York	York District Office 150 Roosevelt Ave., Ste. 200 York, PA 17401	717-771-4481

**APPENDIX II:
Department of Environmental Protection
Field Operations Regional Offices and Emergency Phone Numbers**



DEP Regional Offices

**PA DEP-WSM
Northwest Region**
230 Chestnut St.
Meadville, PA 16335-3481
Main Telephone: 814-332-6945
24-Hour Emergency: 1-800-373-3398

Counties: Butler, Clarion, Crawford, Elk, Erie, Forest, Jefferson, Lawrence, McKean, Mercer, Venango and Warren

**PA DEP-WSM
Northcentral Region**
208 W. Third St., STE 101
Williamsport, PA 17701-6448
Main Telephone: 570-327-3636
24-Hour Emergency: 570-327-3636

Counties: Bradford, Cameron, Clearfield, Centre, Clinton, Columbia, Lycoming, Montour, Northumberland, Potter, Snyder, Sullivan, Tioga and Union

**PA DEP-WSM
Northeast Region**
2 Public Square
Wilkes-Barre, PA 18701-1915
Main Telephone: 570-826-2511
24-Hour Emergency: 570-826-2511

Counties: Carbon, Lackawanna, Lehigh, Luzerne, Monroe, Northampton, Pike, Schuylkill, Susquehanna, Wayne and Wyoming

**PA DEP-WSM
Southwest Region**
400 Waterfront Drive
Pittsburgh, PA 15222-4745
Main Telephone: 412-442-4000
24-Hour Emergency: 412-442-4000

Counties: Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington and Westmoreland

**PA DEP-WSM
Southcentral Region**
909 Elmerton Ave.
Harrisburg, PA 17110-8200
Main Telephone: 717-705-4700
24-Hour Emergency: 1-866-825-0208

Counties: Adams, Bedford, Berks, Blair, Cumberland, Dauphin, Franklin, Fulton, Huntingdon, Juniata, Lancaster, Lebanon, Mifflin, Perry and York

**PA DEP-WSM
Southeast Region**
2 E. Main St.
Norristown, PA 19401-4915
Main Telephone: 484-250-5900
24-Hour Emergency: 484-250-5900

Counties: Bucks, Chester, Delaware, Montgomery and Philadelphia

For the most recent emergency numbers, see the DEP webpages: www.dep.state.pa.us/

Appendix III

Existing Requirements in Place Until State Revised Total Coliform Rule is Final

REPORTING RESULTS ON THE SDWA FORMS

The results for coliform and *E. coli* are reported one of the following forms listed in Table 9.

Table 9: Using the Correct DEP DWELR Reporting Forms

<i>Form</i>	<i>Applies to</i>	<i>Purpose</i>
SDWA-S	All Community, Non-transient Noncommunity (NTNC) and Transient Noncommunity (TNC) water systems	Report <i>summarized results</i> of all distribution system routine and check samples.
SDWA-S	Bottled, Vended, Retail, and Bulk Water Hauling Systems (BVRB)*	Report <i>summarized results</i> of all finished product (entry point) routine and check samples.
SDWA-1	All Public Water Systems	<ul style="list-style-type: none"> - Report ALL individual routine <i>total coliform</i> results. - Report all individual <i>check sample</i> results. - Report all individual <i>fecal coliform or E. coli</i> routine or check sample results. - Report all individual <i>triggered source water</i> samples or other raw water samples with required reporting (sample type "R") results. (Do not report "R" samples on the SDWA-S form.) - Report all surface water or GUDI source water and entry point <i>coliform</i> results under the PA Filter Rule (accredited laboratory required). - Report all <i>special sample</i> type "S" results. (Do not report "S" samples on an SDWA-S form.)
<p>*The Laboratory Reporting Guide for Bottled Water and Vended Water Systems, Retail Water Facilities, and Bulk Water Hauling Systems, DEP ID: 383-3301-103 contains additional details and instructions for reporting monitoring data for BVRB systems.</p>		

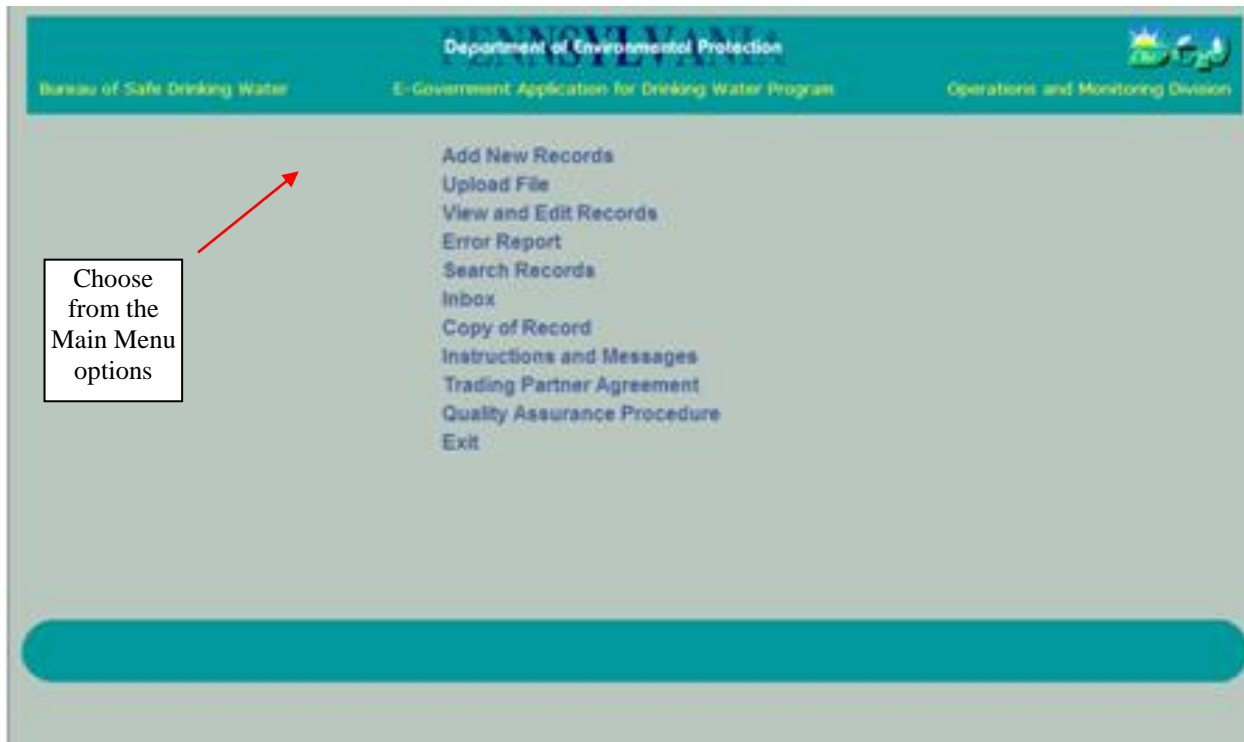
SUBSECTION A: SDWA-S FORM; COLIFORM AND E. COLI BACTERIA REPORTING

The *SDWA-S Summary Analysis* form is used to summarize the results of distribution system or entry point for Bottled, Vended, Retail, Bulk (BVRB) water sampling. The SDWA-S form is electronically submitted through the DEP *DWELR* on-line pages. t.

Instructions on how to find the **SDWA-S Summary Analysis form, form descriptions, and screenshots** from *DWELR* also described are on the following pages.

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In DEP Greenport, enter DWELR and go to the Main Menu:



DWELR SAFE DRINKING WATER ACT SDWA-S SUMMARY ANALYSIS DATA FORM

PENNSYLVANIA
Department of Environmental Protection



Bureau of Safe Drinking Water

E-Government Application for Drinking Water Program

Operations and Monitoring Division

WARNING! Closing the screen, moving between forms, or clicking the Browser BACK button without first Submitting data you've entered could result in lost data. Please click at the bottom of the screen to save your data to the DEP Official Record.

SAFE DRINKING WATER ACT SDWA S - SUMMARY ANALYSIS

SDWA-5

Current Lab Certifications

Contaminants not Requiring Certification

PWSID	PWS Name	Contam ID	Analysis Meth	No. of Routine Samples Req'd	No. of Routine Samples Taken	No. of Routine Samples out of Compliance	No. of Check Samples out of Compliance	Sample Type	Last Sample Date	Lab ID	No. of Check Samples Taken	Loc/EP ID	Sample Period Begin Date	Sample Period End Date	Sample ID	Average Result
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

[SDWA-1](#)

[SDWA-4](#)

[SDWA-4U](#)

[SDWA-5](#)

[SDWA-PbCu](#)

[SDWA-9](#)

[Main Menu](#)

[Exit](#)

**DWELR SDWA-S SUMMARY ANALYSIS DATA FORM
INSTRUCTIONS FOR COLIFORM AND E. COLI BACTERIA REPORTING**

DATA FIELD	DESCRIPTION
PWS ID	Enter the 7-digit public water system identification number of the public water system to which these samples apply. FAILURE TO ENTER THE CORRECT PWS ID WILL RESULT IN THE WATER SUPPLIER NOT RECEIVING CREDIT FOR CONDUCTING THE REQUIRED MONITORING. If you do not know the PWS ID number, the local DEP or CHD office should be able to assist you with obtaining the number for a PWS. All PWS ID numbers are assigned by the local DEP or CHD office.
PWS NAME	The system automatically enters the PWS name.
CONTAMINANT (PARAMETER) ID	Enter the 4-digit identification code for Total Coliform Bacteria - 3100.
ANALYSIS METHOD	Enter the 3-digit code of the approved analysis method used to analyze the total coliform samples. <u>The laboratory must be accredited to perform the method indicated or the results will be rejected.</u> Only one method code may be entered. Acceptable methods are listed in Section 6 in this document.
NUMBER OF SAMPLES	<p>A. <u>Routine Required</u> - Enter the number of distribution system (or entry point for BVRB systems) total coliform samples the PWS is required to collect for this sampling period. (See Section 7.)</p> <p>Example: for one (1) sample, enter 1; for 60 samples, enter 60.</p> <p>B. <u>Routine Taken</u> - Enter the number of <u>routine</u> distribution system total coliform samples that were actually taken and analyzed during the period for the PWS.</p> <p>C. <u>Checks Taken</u> - Enter the total number of <u>check samples that were taken in response to total coliform-positive samples. The result of each check sample taken during the compliance period for a PWS must also be entered and submitted on an SDWA-1 form.</u> Check samples must be taken according to the chart and procedures described in Section 7 in this document. If no check samples were required, enter 0 (zero).</p>
SAMPLE TYPE	<p>Enter the letter code “D” for Distribution System Total Coliform samples.</p> <p>BVRB systems should use the letter code “E” for Entry Point (finished product) samples.</p>

**SDWA-S SUMMARY ANALYSIS DATA FORM
INSTRUCTIONS FOR COLIFORM AND E. COLI BACTERIA REPORTING (CONT.)**

DATA FIELD	DESCRIPTION
NUMBER OF SAMPLES OUT OF COMPLIANCE	<p>A. <u>Routine</u> - Enter the number of routine distribution system samples which were <u>total coliform-positive</u> during the period for the PWS. (Entry point is required for BVRB.) DO NOT LEAVE THIS LINE BLANK. Example: for two, enter 2; for zero, enter 0.</p> <p>All Total Coliform-Positive Routine Samples must also be reported on an SDWA-1 form and submitted along with the SDWA-S form. Refer to the SDWA-1 instructions later in this manual.</p> <p>B. <u>Check</u> - Enter the number of check (repeat) samples that were <u>total coliform-positive</u> during the period for the PWS. For example, for one, enter “1”; for zero, enter “0”. DO NOT LEAVE THIS LINE BLANK. See <u>Table 12: Check Sample Requirements</u> in this document for requirements.</p> <p>All Check Samples, regardless of results, must also be reported on an SDWA-1 form and submitted along with the SDWA-S form. Refer to the SDWA-1 instructions later in this manual.</p>
LAST SAMPLE DATE	Enter the date (MMDDYY) that the last <u>routine</u> distribution sample for the period was collected.
LABORATORY ID	Enter the 5-digit PA Laboratory Identification Number assigned to the laboratory that conducted the coliform analysis.
LOCATION (SAMPLING POINT) ID	Enter the appropriate 3-digit location ID For CWS, NTNC and TNC water systems; leave blank, if not applicable. (Entry point is required for BVRB.)
SAMPLE PERIOD	Enter the beginning date (MMDDYY) and ending date (MMDDYY) for the monthly or quarterly sampling period to which these sample results apply. Example: For the month of October 2013, enter 100113 to 103113.
SAMPLE ID	Enter the unique laboratory sample identification.
AVERAGE RESULT	Leave blank - <i>not applicable for coliform reporting.</i>

Several important factors to consider in submitting the SDWA-S form include:

- The **SDWA-S form** is always required for systems to comply with the TCR.
- Systems required to sample quarterly should report results for each month in which they performed the sampling.
- The following detailed information should also be noted:
 - ***Only one (1) SDWA-S form should be submitted for each PWS in any single month. Contact the DEP regional office or PADWIS Section for special instructions if more than one laboratory conducts analyses for a public water system in any one month.*** Multiple records submitted for the same month cause PADWIS to calculate compliance incorrectly resulting in “erroneous violations”.
 - If all results for the monitoring period are ***coliform negative***, ***only the SDWA-S form*** should be submitted.
 - ***Special (S) samples and Raw (R) samples should not be reported on an SDWA-S form.***
 - The ***Last Sample Date*** reported on the SDWA-S form is the ***date the last routine-Distribution (D) or Entry Point (E)-sample was collected.*** ***Do not*** report the check sample date in this field.
 - The monitoring period should always be reported as the month in which the routine samples were collected.
 - ***If any results are coliform positive, then SDWA-1 forms must also be submitted. The detailed record must be submitted for the positive routine samples and for check samples.*** This reporting requirement includes sampling source water and at each entry point for PWSs using unfiltered and GUDI sources.
 - The ***number of routine samples out of compliance*** (field name = NUMRTOOC) reported on the SDWA-S form ***must match the number of D (or E) samples reported*** on the SDWA-1 form.
 - The ***number of check samples taken*** (field name = NUMCKTK) reported on the SDWA-S form ***must match the number of C samples reported*** on the SDWA-1 form.
 - The ***number of check samples out of compliance*** (field name = NUMCKOOC) reported on the SDWA-S form ***must match the number of coliform positive C samples reported*** on the SDWA-1 form.
 - ***Any result determined to be invalid*** (by the laboratory or by DEP) ***cannot be used for compliance determinations and should not be reported*** to DEP. Replacement samples must be collected within the same monitoring period or the system will receive a monitoring violation.

SUBSECTION B: SDWA-1 FORM; COLIFORM AND E. COLI BACTERIA REPORTING

The *SDWA-1* form is used to report **ALL** the results of distribution system, raw, check or entry point for Bottled, Vended, Retail, Bulk (BVRV) water sampling.

The information on the *SDWA-1* is *submitted electronically* through the DEP *DWELR* on-line pages.

The SDWA-1 form descriptions and a screenshot as the form appears in DWELR are on the following pages.

DRAFT

**SAFE DRINKING WATER ACT
SDWA-1 BACTERIOLOGICAL/RESIDUAL DISINFECTANT/TURBIDITY/DBP ANALYSIS**




Bureau of Safe Drinking Water E-Government Application for Drinking Water Program Operations and Monitoring Division

WARNING! Closing the screen, moving between forms, or clicking the Browser BACK button without first Submitting data you've entered could result in lost data. Please click at the bottom of the screen to save your data to the DEP Official Record.

SAFE DRINKING WATER ACT

SDWA 1 - BACTERIOLOGICAL / RESIDUAL DISINFECTANT / TURBIDITY / DBP ANALYSIS

SDWA-1

Current Lab Certifications			Contaminants not Requiring Certification										
	PWSID	PWS Name	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
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**SDWA-1 BACTERIOLOGICAL/RESIDUAL
DISINFECTANT/TURBIDITY/DBP ANALYSIS FORM
INSTRUCTIONS FOR COLIFORM/
REPORTING**

DATA FIELD	DESCRIPTION
PWS ID	Enter the 7-digit identification number of the public water system to which these samples apply. FAILURE TO ENTER THE CORRECT PWS ID WILL RESULT IN THE WATER SUPPLIER NOT RECEIVING CREDIT FOR CONDUCTING THE REQUIRED MONITORING. If you do not know the PWS ID number, the local DEP or CHD office should be able to assist you with obtaining the number for a PWS. All PWS ID numbers are assigned by the local DEP or CHD office.
PWS NAME	The system automatically enters the PWS name.
CONTAMINANT (PARAMETER) ID	<p>Enter the appropriate 4-digit contaminant identification code for Presence/Absence: for Total Coliform, enter 3100; for Fecal Coliform, enter 3113; and for <i>E. coli</i>, enter 3114.</p> <p>Enter the appropriate 4-digit contaminant identification code for bacteria enumeration (applies to small systems source water sampling for PWS using surface water or GUDI and for source water and entry point sampling for PWSs with unfiltered surface water source water): for Total Coliform, enter 3000; for Fecal Coliform, enter 3013; and for <i>E. coli</i>, enter 3014).</p>
ANALYSIS METHOD	<p>The laboratory must be certified for the parameter indicated, or the results will not be accepted. All routine total coliform-positive results, and all check sample analyses, regardless of results, must be reported on an SDWA-1 form. Fecal Coliform or <i>E. coli</i> analyses may be reported on the same electronic SDWA-1 form as the Total Coliform results.</p> <p>Enter the 3-digit code of the approved analysis method used to analyze the samples. The laboratory must be accredited to perform the method indicated, or the results will be rejected. Acceptable method codes are listed in Section 6 in this document.</p>
ANALYSIS RESULT	If a presence or absence method was used, enter the correct code (presence (code '1'; absence code '0') to indicate the status. The enumeration (total counts/numbers) is <i>not</i> an acceptable form of reporting for either TCR or GWR. The correct presence/absence codes must be reported to indicate the presence or absence of Coliform, Fecal Coliform, and <i>E. coli</i> .
ANALYSIS DATE MMDDYY	Enter the date (MMDDYY) on which the sample analysis was performed, or if the analysis spanned more than 1 day, the date on which the sample analysis result was obtained.

Example: For April 15, 2013, enter 041513.

**SDWA-1 BACTERIOLOGICAL/RESIDUAL
DISINFECTANT/TURBIDITY/DBP ANALYSIS FORM
INSTRUCTIONS FOR COLIFORM/E. COLI BACTERIA REPORTING (CON'T.)**

DATA FIELD	DESCRIPTION
SAMPLE PERIOD	Enter the beginning date (MMDDYY) and the ending date (MMDDYY) for the monthly or quarterly sampling period to which these sample results apply. These dates must encompass the sample dates detailed on the form.
LOCATION ID1	<p>Enter the unique 3-digit number (700-999) which identifies the location at which the sample was collected. Samples must be taken at regular intervals throughout the monitoring period at sites which are representative of water throughout the distribution system according to a written sample siting plan. The sample locations should be listed in the system's sample siting plan. The siting plan must be submitted by the water supplier within 30 days of notification by DEP.</p> <p>Enter the appropriate entry point location ID (e.g., 101) assigned by DEP (or the CHD) to the product line, machine, vehicle, or dispenser for BVRB systems.</p> <p>For triggered source water samples, enter the appropriate source ID (e.g., 001) assigned by DEP.</p> <p>Contact the water supplier for the correct sample location, entry point ID or source ID if it was not provided with the sample.</p> <p>Each Fecal (OR <i>E. coli</i>) analysis result, done as a follow-up on a total Coliform-positive routine or check sample must be identified with the SAME LOCATION code as the original total Coliform- positive sample which induced the fecal analysis.</p> <p>All <u>CHECK SAMPLES</u> following a total Coliform-positive sample must be identified with the SAME LOCATION as the original total Coliform-positive sample site even though some of the check samples are taken at different taps (within five service connections). This is important so that check samples can BE TIED to the routine positive sample which induced the check samples.</p>
LOCATION ID2	Leave blank - not applicable
SAMPLE DATE MMDDYY	<p>Enter the date on which the sample was collected.</p> <p>Example: For a sample collected on August 5, 2013, enter 080513.</p>

**SDWA-1 BACTERIOLOGICAL/RESIDUAL
DISINFECTANT/TURBIDITY/DBP ANALYSIS FORM
INSTRUCTIONS FOR COLIFORM/E. COLI BACTERIA REPORTING (CON'T.)**

DATA FIELD	DESCRIPTION
SAMPLE TYPE	<p>Enter the appropriate letter code which corresponds to the type of sample collected as follows:</p> <p>D = Distribution: Routine samples taken in the distribution system are “D” samples.</p> <p>E = Entry Point: Routine samples for BVRB systems are “E” samples.</p> <p>C = Check: Samples taken in response to coliform-positive routine samples are “C” samples.</p> <p>S = Special: A supplier may wish to collect and have analyzed special samples to meet their own need, or may be required by DEP or a CHD to take samples to fulfill a special requirement. For example, a PWS may be ordered to take delinquent samples <u>after</u> a monitoring period has ended. Such samples must be coded as “S” samples.</p> <p>R = Raw (source) water: Triggered source water samples taken in response to coliform-positive routine samples are “R” samples. A supplier may also wish to collect, and have analyzed, samples of raw water to meet their own particular need, such as new source sampling; such samples will not be credited toward routine monitoring requirements.</p>
SAMPLE TIME	<p>Enter the time of day at which the sample was collected. All times must be in military time. The sample day runs from 0000 to 2359. This means the last time which can be reported for a given day is for 2359 not 2400. 2400, midnight, would be reported as 0000 on the next day. This field must be completed in order for the results to be accepted. If the exact time is not known, enter an approximate time.</p> <p>Example: For 2:30 p.m., enter 1430.</p>
LAB ID	<p>Enter the 5-digit PA Laboratory Identification Number assigned to the <u>laboratory that analyzed</u> the samples. The ID number must be entered for results to be accepted. Do not use dashes or symbols.</p>
SAMPLE ID	<p>Enter the unique laboratory sample identification.</p>

The **SDWA-1 form** is used to report the results of the following individual sample analyses:

- Any *Routine (D or E)* sample analyses results that were Total Coliform Positive.
- All *Check (C)* sample analyses, regardless of result.
- All *Fecal Coliform/E. coli* sample analyses, regardless of result.
- All *Special (S) or Raw water (R)* sample analyses (including triggered source water samples), regardless of the result.

The following information and details about the SDWA-1 form reporting should be noted:

- The detail record must be submitted for the all routine samples and for all check samples. Routine (D or E) and check (C) sample results may be submitted on the same form.
- The monitoring period should always be reported as the month in which the routine samples were collected.
- The number of routine samples out of compliance (field name = NUMRTOOC) reported on the SDWA-S form ***must*** match the number of D (or E) samples reported on the SDWA-1 form.
- The number of check samples taken (field name = NUMCKTK) reported on the SDWA-S form ***must*** match the number of C samples reported on the SDWA-1 form.
- The number of check samples out of compliance (field name = NUMCKOOC) reported on the SDWA-S form ***must*** match the number of coliform positive C samples reported on the SDWA-1 form.
- The location IDs of the check samples ***must*** match the location ID of the positive routine (D or E) sample on the SDWA-1 form even if the check samples are collected at a different sampling point.
- The location IDs of triggered source water samples ***must*** match the source IDs assigned by DEP.
- The analysis date reported on the SDWA-1 form is the date that the sample analysis was performed (i.e., the result is read), not the date the analysis was started.
- Any result determined to be invalid (by the laboratory or by DEP) cannot be used for compliance determinations and should not be reported to DEP. Replacement samples must be collected within the same monitoring period or the system will receive a monitoring violation.

SECTION 6: REQUIREMENTS AND CODES FOR REPORTING MONITORING RESULTS

Each total coliform-positive sample must be analyzed for the ***presence*** of fecal coliform or E. coli bacteria. If a public water system forgoes fecal coliform testing, then any total coliform-positive sample will be presumed to be fecal coliform-positive.

The specific conditions and requirements for fecal testing are listed in Table 10: Follow-up Fecal Requirements:

Table 10: Follow-up Fecal Testing Requirements

Condition	Fecal Testing Requirement
For each routine or check sample that is total <u>coliform-negative</u>	None
For each routine or check sample that is total <u>coliform-positive</u>	Analyze total coliform-positive culture medium to determine presence of fecal coliform* OR MUG ⁺ medium may be used to determine the presence of <i>E. coli</i> .
<p>* The Fecal Coliform analysis must be conducted in accordance with one of the following two laboratory procedures:</p> <ol style="list-style-type: none"> 1) Multiple Tube Fermentation (MTF) or Presence-Absence (P-A) Methods: Shake the lactose-positive presumptive tube or P-A bottle vigorously and transfer the growth with a sterile 3-mm loop or sterile applicator stick into brilliant green lactose bile broth and EC medium (a specific medium employed to detect fecal coliform and <i>E. coli</i>) to determine the presence of total and fecal coliforms, respectively. 2) Membrane Filter Method: Remove the membrane containing the total coliform colonies from the substrate with a sterile forceps and carefully curl and insert the membrane into a tube of EC medium. Alternatively, swab the membrane filter with a sterile cotton swab to inoculate EC medium, or inoculate individual total coliform-positive colonies into EC medium. (The laboratory may first remove a small portion of selected colonies for verification.) Gently shake the inoculated EC tubes to insure adequate mixing and incubate in a waterbath at 44.5°C for 24 hours. Gas production of any amount in the inner fermentation tube of the EC medium indicates a positive fecal coliform test. <p>+ MUG = a type of <i>E. coli</i> medium containing 4-methylumbelliferyl-β-D-glucuronide.</p>	

The **presence or absence** of coliforms must be reported for TCR and GWR; the enumeration (total counts/numbers) is **not** an acceptable form of reporting for either TCR or GWR. The correct presence/absence codes must be reported to indicate the presence or absence of Coliform, Fecal Coliform, and *E. coli* as follows:

- PRESENCE = 1
- ABSENCE = 0

MONITORING FREQUENCY REQUIREMENTS

The routine monitoring frequency requirements for systems are shown in Table 11: Monitoring Frequencies below.

Table 11: Monitoring Frequencies

System Type	Water Source*	Population	No. of Samples	Frequency
Community	Surface**/Ground	ALL	Based on Population	Monthly
Nontransient Noncommunity (NTNC)	Surface**	ALL	Based on Population	Monthly
	Ground	>1,000	Based on Population	Monthly
	Ground	<= 1,000	1	Quarterly ⁺
Transient Noncommunity (TNC)	Surface**	ALL	Based on Population	Monthly
	Ground	>1,000	Based on Population	Monthly
	Ground	<= 1,000	1	Quarterly ⁺
Vended	Permit by Rule	ALL	1 per Entry Point	Monthly
Bottled, Vended, Retail, Bulk (BVRB)	Surface/Ground (Not Permit by Rule)	ALL	1 per Entry Point	Weekly
<p>* - Finished water used as a source (i.e., purchased water) is considered groundwater for monitoring purposes.</p> <p>** - Including unfiltered surface water sources and groundwater under the direct influence of surface water (GUDI) sources</p> <p>+ - Quarterly sampling must be completed by March 31, June 30, Sept. 30, and Dec. 31 of each year.</p>				

REPORTING OF FECAL RESULTS:

Report all fecal test results on an SDWA-1 form along with the routine total coliform-positive results and check sample results. You must use the same location ID number as the corresponding total coliform result.

For each Total Coliform-positive sample, check samples must be taken in addition to the required routine samples and must be taken according to the requirements listed in **Table 12: Check Sampling Requirements**.

Table 12: Check Sampling Requirements

Number of Routine Samples Collected Each Month	Number of Check Samples Required for Each Total Coliform-Positive Sample
1 or less	4
2 or more	3
Bottled	3
Vended, Retail and Bulk	4

Rules for Check Samples

When:

Check samples must be taken within 24 hours of PWS being notified of a total coliform-positive sample. DEP may extend this 24-hour collection limit on a case-by-case basis to a maximum of 72 hours if the system adequately demonstrates a logistical problem outside the system's control in having the sample analyzed within 30 hours of collection.

All samples must be taken on the same day except that systems with a single service connection have the *option* of collecting samples over a 4-day period.

Where:

At a minimum, samples should include: 1 sample from the *same tap*, 1 sample within 5 service connections *upstream*, and 1 sample within 5 service connections *downstream* from the original total coliform-positive sample.

Where upstream or downstream sites are impossible to sample or not readily determinable, with DEP approval, alternate sites within 5 service connections may be sampled to satisfy the required number of check samples.

If systems with a single service connection collect all check samples on the same day, there are no restrictions on the taps used or time interval between samples, unless specified otherwise by the local DEP or CHD office.

Reporting:

Complete appropriate blocks on the SDWA-S form to report results. In addition, report *all* check sample results on an SDWA-1 form along with the routine total coliform-positive sample results. The same location ID number must be listed as the corresponding routine total coliform-positive "D" type sample that induced the check samples.

Positive Check Samples:

If any check samples are total coliform-positive, additional check samples must be collected in the manner specified above and must continue to be collected until *either* total coliforms are not detected *or* the MCL for total coliforms is exceeded, whichever comes first by the end of the month.

Triggered Source Water Samples:

When 4-log treatment of viruses is not provided for groundwater sources, PWS must collect at least one sample from each groundwater source that is connected to the distribution system following notification of a total coliform-positive routine sample collected under TCR.

Rules for Triggered Source Samples

When:

Sampling must be performed, within 24 hours of PWS being notified of a total coliform-positive sample. DEP may extend this 24-hour collection limit on a case-by-case basis to a maximum of 72 hours if the system adequately demonstrates a logistical problem outside the system's control in having the sample analyzed within 30 hours of collection.

Where:

Collect a sample at a location prior to any treatment, from each well where 4-log treatment of viruses is not provided.

Reporting:

Report all triggered source water sample results on an SDWA-1 form. The location ID of triggered source water samples must match the source ID number assigned by DEP.

DRAFT

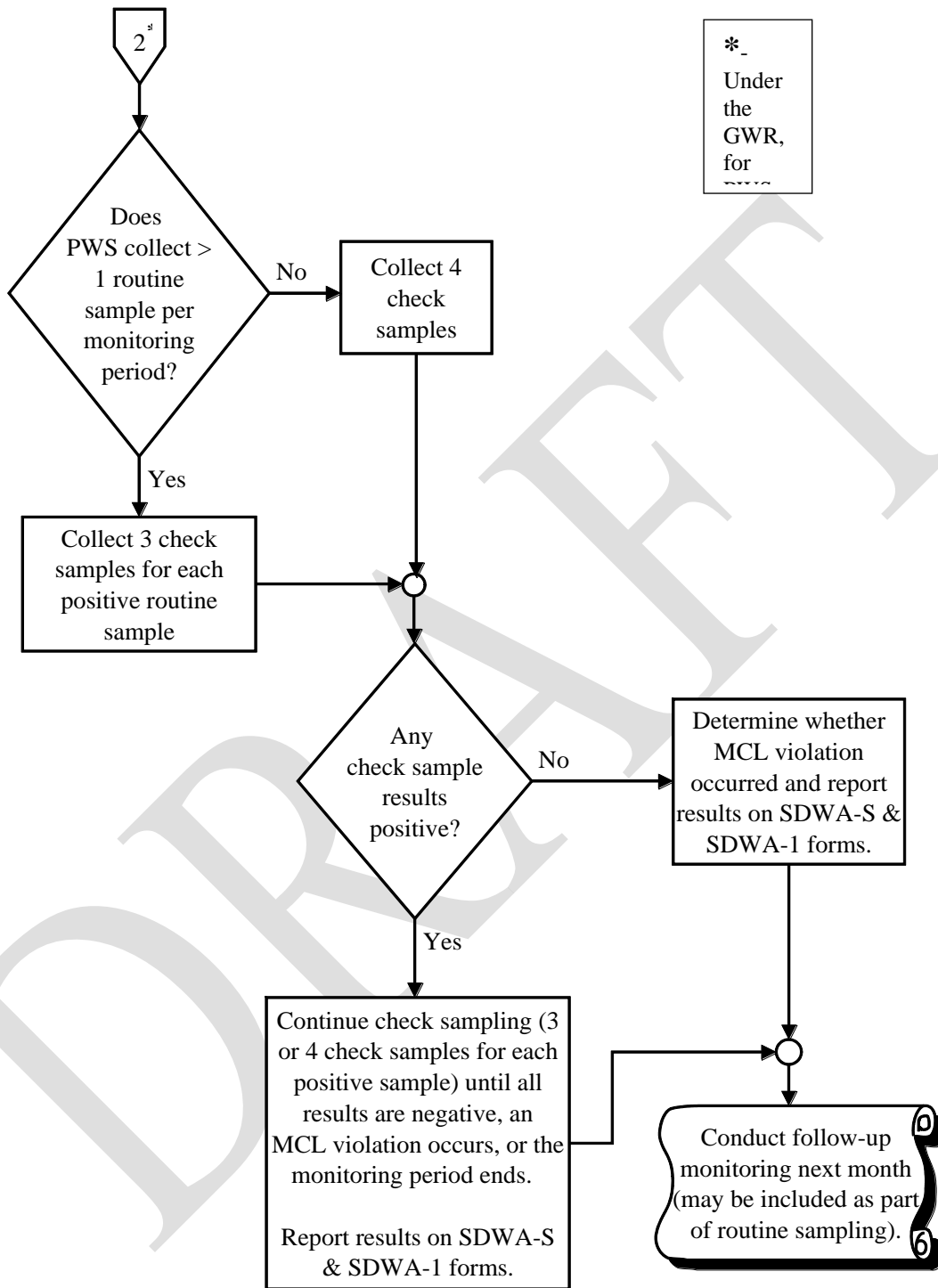
SUBSECTION B: COLIFORM BACTERIA PRIMARY MCL

The MCL for coliform bacteria is based on *presence* or *absence* (rather than enumeration) of coliform bacteria, as previously described in Section 6. There are two types of MCL violations: *acute* and *monthly*. Table 13: Coliform MCL Violation Determination describes the conditions for MCL violations, and the acute and monthly MCL violation types.

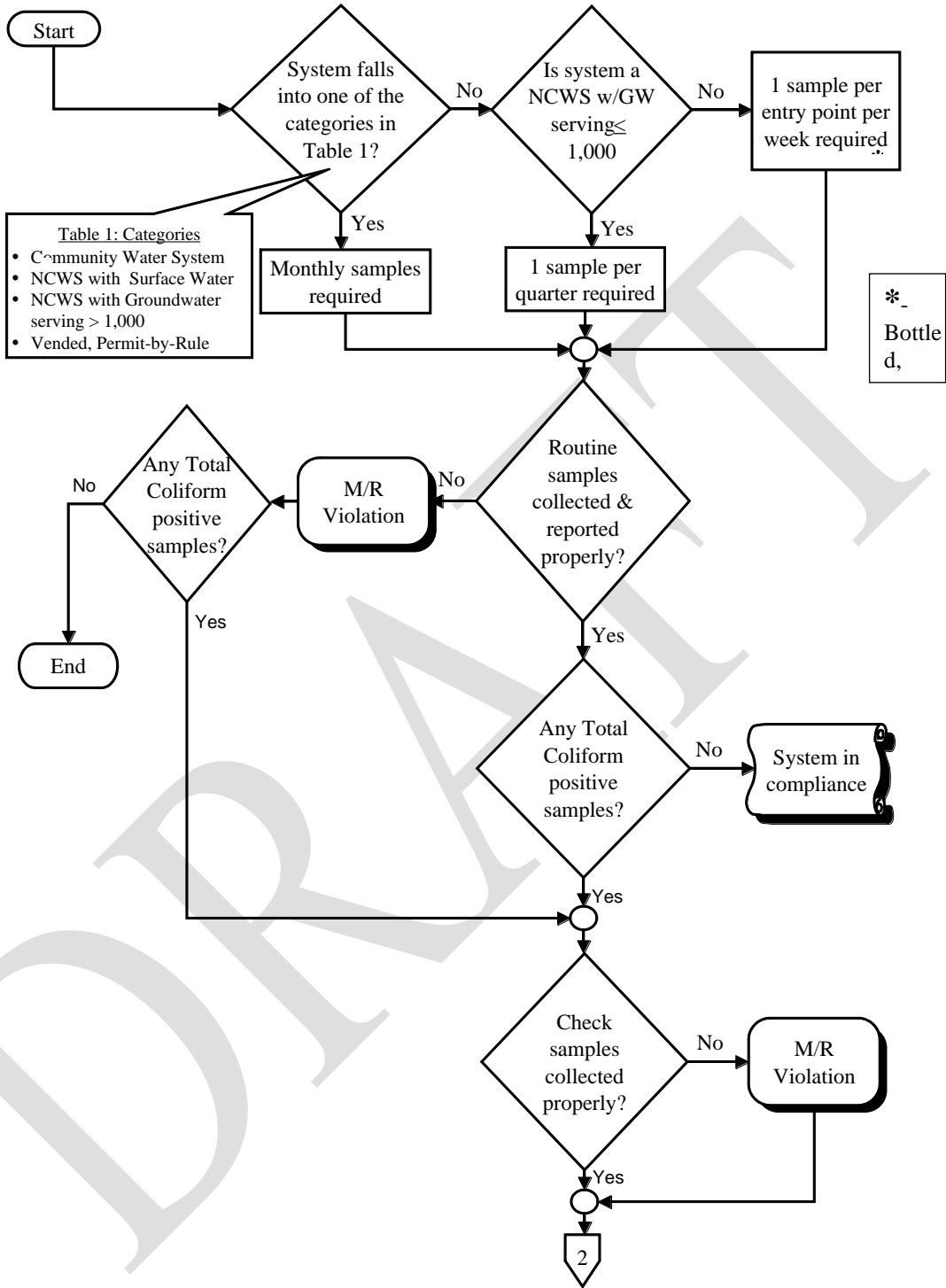
Table 13: Coliform MCL Violation Determination

Total Number of Routine and Check Samples Collected During Month	CONDITION (in any given month)	MCL Violation Type
Any number	If any routine sample is determined to be fecal or <i>E. coli</i> coliform-positive, AND At least 1 of the associated check samples is total coliform-positive	Acute
Any number	If any check sample is determined to be fecal or <i>E. coli</i> coliform-positive	Acute
1 – 39	If 2 or more samples are total coliform-positive (including check samples)	Monthly
40 or more	If more than 5.0% of all the samples taken are total coliform-positive (including check samples)	Monthly

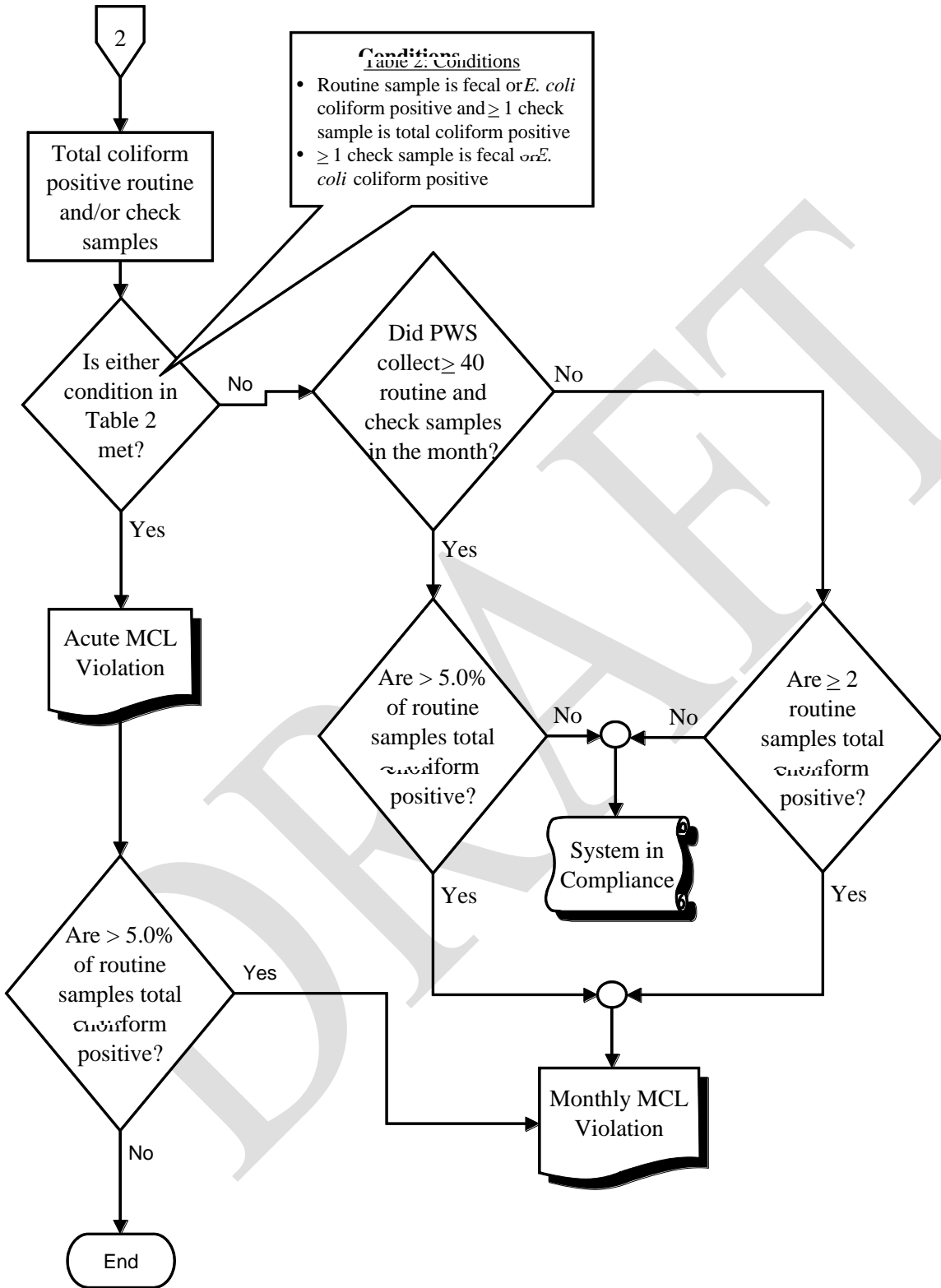
TCR Monitoring/Reporting Flow Chart (continued from the previous page)



TCR Violations Flow Chart



TCR Violations Flow Chart (continued from the previous page)



CASE STUDIES

Case #A: Noncommunity System-No Violation

The “Pizza Delight” restaurant (PWS ID 1234301) is a groundwater noncommunity system which must collect 1 routine sample per quarter for total coliform analysis. This system does not provide 4-log treatment of viruses for its one well (Source ID# 001). By the membrane filter method (Analysis Method Code 325), the following result was obtained for the quarter July-September 2015.

<u>Sample Date</u>	<u>Analysis Date</u>	<u>Sample Type</u>	<u>TC Result</u>	<u>Fecal Coliform Result</u>
09/12/15	09/13/15	D (Distribution)	0	Not Needed

This restaurant is in compliance for this quarter because the sample was total coliform-negative. Triggered source water samples are not required because the routine sample was total coliform-negative.

A completed SDWA-S DWELR Summary Analysis is required in the input screen. *An SDWA-1 form is also required* for this scenario.

Analysis Method Code 325 is a “two-step” method or an analysis that requires an additional step be performed should a fecal-coliform analysis be required. Total coliform contaminant ID # 3100 is reported; if fecal coliform analysis is required due to a total coliform positive result, contaminant ID # 3113 would be reported in addition.

Reader’s Note: The following pages show how to enter the data and the properly completed SDWA-S Summary

Case #A/Example Screenshots:

The System Does Not Provide 4-Log Treatment of Viruses for the Groundwater Well

SDWA S-Summary Analysis DWELR input screen (Analysis Method Code 325) for the data:


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SAFE DRINKING WATER ACT
SDWA S - SUMMARY ANALYSIS

SDWA-S

Current Lab Certifications						Contaminants not Requiring Certification										
PWSID	PWS Name	Contam ID	Analysis Meth	No. of Routine Samples Req'd	No. of Routine Samples Taken	No. of Routine Samples out of Compliance	No. of Check Samples out of Compliance	Sample Type	Last Sample Date	Lab ID	No. of Check Samples Taken	Loc/EP ID	Sample Period Begin Date	Sample Period End Date	Sample ID	Average Result
1234301	Pizza Delight	3100	325	1	1	0	0	D	091215	12345	0		070115	093015		

SDWA-1 Bacteriological/Residual Disinfectant/Turbidity/DBP Analysis input screen (Analysis Method Code 325):


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WARNING! Closing the screen, moving between forms, or clicking the Browser BACK button without first Submitting data you've entered could result in lost data. Please click at the bottom of the screen to save your data to the DEP Official Record.

SAFE DRINKING WATER ACT
SDWA 1 - BACTERIOLOGICAL / RESIDUAL DISINFECTANT / TURBIDITY / DBP ANALYSIS

SDWA-1

Current Lab Certifications				Contaminants not Requiring Certification										
PWSID	PWS Name	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID		
1234301	Pizza Delight	3100	325	0	091315	700		091215	D	0800	12345	1A		

To Review, Edit, or Print the record:

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Bureau of Safe Drinking Water E-Government Application for Drinking Water Program Operations and Monitoring Division

SAFE DRINKING WATER ACT

VIEW and EDIT RECORDS

Click here for a Printer Friendly Version
View a Monitoring Calendar

SDWA-1

Current Lab Certifications					Contaminants not Requiring Certification								
<input type="checkbox"/>	PWSID	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID	Record ID
								Sort				Sort	

Main Menu

SDWA 1 (0) SDWA 4 (0) SDWA 4U (0) SDWA 5 (0) SDWA Pbcu (0) SDWA S (1)

Add New Records Upload File View and Edit Records Error Report Search Records Index Main Menu Exit

Click here →

Click here

Note the type of form listed

Reader's Note: The following pages show the properly completed SDWA-S Summary Analysis form and SDWA-1 form screenshots that correspond with this example, as they would appear in DWELR.

Note: View and Edit Records
Printer Friendly Version.

SDWA S-Summary Analysis DWELR View and Edit screen:

SDWA-S																	
Current Lab Certifications										Contaminants not Requiring Certification							
<input type="checkbox"/>	PWSID	Contam ID	Analysis Meth	No. of Routine Samples Req'd	No. of Routine Samples Taken	No. of Routine Samples out of Compliance	No. of Check Samples out of Compliance	Sample Type	Last Sample Date	Lab ID	No. of Check Samples Taken	Loc/EP ID	Sample Period Begin Date	Sample Period End Date	Sample ID	Average Result	Record ID
<input type="checkbox"/>	Sort									Sort							
<input type="checkbox"/>	1234301	3100	325	1	1	0	0	D	091215	12345	0		070115	093015			STUDENTE_130

SDWA-1 Bacteriological/Residual Disinfectant/Turbidity/DBP Analysis View and Edit screen:

SDWA-1													
Current Lab Certifications							Contaminants not Requiring Certification						
<input type="checkbox"/>	PWSID	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID	Record ID
<input type="checkbox"/>	Sort							Sort			Sort		
<input type="checkbox"/>	1234301	3100	325	0.0	091315	700		091215	D	0800	12345	PR	STUDENTE_541

Case #B: Noncommunity System-Positive Routine Sample but No Violation

The “Healthy Crust” restaurant (PWS ID 1234303) is a groundwater noncommunity system that must collect 1 routine sample per quarter for total coliform analysis. This system does not provide 4-log treatment of viruses for its one well (Source ID# 001). Using the fermentation tube method (Analysis Method Code 327), the following results were obtained for the quarter October-December 2015.

<u>Sample Date</u>	<u>Analysis Date</u>	<u>Sample Type</u>	<u>TC Result</u>	<u>E. coli Result</u>
11/10/15	11/11/15	D	1	0
11/11/15	11/12/15	C	0	Not Needed
11/12/15	11/13/15	C	0	Not Needed
11/13/15	11/14/15	C	0	Not Needed
11/14/15	11/15/15	C	0	Not Needed
11/11/15	11/12/15	R (001)	0	Not Needed*

* *E. coli* is presumed absent when total coliform is not present in this example.

Analysis Method Code 327 is also a “two-step” method versus a “simultaneous” method. When total coliform is absent under two-step analytical methods such as 323, 327, or 329, the laboratory should only report the result using the total coliform contaminant ID #3100. Note that the three analytical methods listed here are used for *E. coli* contaminant ID #3114 determination.

There is no acute MCL violaton because there are no positive check sample results. If the *E. coli* analysis had not been performed and reported in association with the routine total coliform-positive “D” sample, then DEP would automatically consider that sample to be *E. coli*-positive. However, there would still be ***no acute*** violation because none of the check samples were total coliform-positive.

Because this PWS takes 1 or less routine samples per month (1 sample per quarter), 4 check samples are required when the routine sample is total coliform-positive. This is a noncommunity system with a single service connection, so the check samples may be taken over a 4-day period. In addition, because this system does not provide 4-log treatment of viruses for its well, 1 triggered source water sample is required.

There is no monthly MCL violation because only 1 sample was total coliform-positive. If 1 or more of the check samples had also been total coliform-positive, then a monthly MCL violation would exist. If any or all of the check samples had not been taken or reported, then a violation for failure to take the required number of check samples would exist.

Notification: The laboratory must notify the public water supplier by telephone within 1 hour of the laboratory obtaining a positive result for the original distribution sample. If the supplier cannot be reached within that time, the laboratory must notify DEP by telephone within 2 hours of the determination with the information listed above. The laboratory must also notify the local DEP or CHD office in writing within 24 hours of discovery of the coliform-positive samples. The water supplier must, in turn, notify the local DEP or CHD office within 1 hour of knowledge of the coliform-positive samples.

Next month's samples: Although there was no violation, this water supplier must collect 5 routine distribution system samples the following month (December). This is a requirement for any PWS which collects fewer than 5 routine samples per month and obtains a total coliform-positive result. DEP has the discretion to reduce the next-month requirement to no less than 1 sample.

Case #B/Example Screenshots:

The System Does Not Provide 4-Log Treatment of Viruses for the Groundwater Well

Note: Records may be edited after submitted, until uploads occur after the 10th of the month.

SDWA-S Summary Analysis input and Edit screens; data entered and submitted:

SDWA-S Printer Friendly View and Edit view screen for this data:

SDWA 1 Bacteriological/Residual Disinfectant/Turbidity/DBP Analysis (Printer Friendly) View and Edit Screen (Analysis Method Code 327):

Department of Environmental Protection Bureau of Safe Drinking Water												
E-Government Application for Drinking Water Program												
Operations and Monitoring Division												
SAFE DRINKING WATER ACT VIEW and EDIT RECORDS Click here for a Printer Friendly Version View a Monitoring Calendar												
SDWA-1												
Current Lab Certifications						Contaminants not Requiring Certification						
<input type="checkbox"/>	PWSID	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Record ID
<input type="checkbox"/>	Sort			Sort	Sort			Sort			Sort	
<input type="checkbox"/>	1234303	3100	327	1.0	111115	701		111015	D	0800	68801	STUDENTE_215
<input type="checkbox"/>	1234303	3100	327	0.0	111215	701		111115	C	1245	68801	STUDENTE_216
<input type="checkbox"/>	1234303	3100	327	0.0	111315	701		111215	C	1300	68801	STUDENTE_217
<input type="checkbox"/>	1234303	3100	327	0.0	111415	701		111315	C	1330	68801	STUDENTE_218
<input type="checkbox"/>	1234303	3100	327	0.0	111515	701		111415	C	1330	68801	STUDENTE_219
<input type="checkbox"/>	1234303	3114	327	0.0	111115	701		111015	D	0800	68801	STUDENTE_220

One (1) Triggered Source Water Sample 'R' is Required Because the System Does Not Provide 4-Log Treatment of Viruses for the Groundwater Well; therefore, additional reporting is required on the SDWA-1 form:

Department of Environmental Protection Bureau of Safe Drinking Water												
E-Government Application for Drinking Water Program												
Operations and Monitoring Division												
SAFE DRINKING WATER ACT VIEW and EDIT RECORDS Click here for a Printer Friendly Version View a Monitoring Calendar												
SDWA-1												
Current Lab Certifications						Contaminants not Requiring Certification						
<input type="checkbox"/>	PWSID	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Record ID
<input type="checkbox"/>	Sort			Sort	Sort			Sort			Sort	
<input type="checkbox"/>	1234303	3100	327	0.0	111215	001		111115	R	1330	68801	STUDENTE_221

Case #C: Noncommunity System-Acute and Monthly MCL Violations

The “Shady Run Motel” (PWS 1234302) is a groundwater noncommunity system that must collect 1 routine sample per quarter for total coliform analysis. This system does not provide 4-log treatment of viruses for the single well in use (Source ID# 001). By the Colilert method (Analysis Method Code 331), the following results were obtained for the quarter October-December 2015.

<u>Sample Date</u>	<u>Analysis Date</u>	<u>Sample Type</u>	<u>TC Result</u>	<u>E. coli Result</u>
09/30/15	10/01/15	D	1	1
10/01/15	10/02/15	C (Check)	0	N/A*
10/01/15	10/02/15	C (Check)	0	N/A*
10/01/15	10/02/15	C (Check)	1	0
10/01/15	10/02/15	C (Check)	1	1
10/01/15	10/02/15	R (001)	1	1

* N/A = Not applicable. The Total Coliform results were negative; therefore no further testing was required.

In this example, the laboratory notified the department within 24 hours of the 10/01/10 results.

Because this PWS takes 1 or less routine samples per month (1 sample per quarter), **4 check samples** are required when the routine sample is total coliform-positive. In addition, because this system does not provide 4-log treatment of viruses for its well, **1 triggered source water sample** is required. If the routine coliform-positive sample was collected at unit #8, then 1 check sample must be taken at unit #8, and the other 3 check samples must be taken within 5 units on both sides of unit #8. All of the check samples must be identified with the same location code as the routine sample as a means of associating these check samples with the appropriate routine sample. The triggered source water sample must be collected from a raw water tap and identified with the proper DEP-assigned source ID (001).

In this case, the routine sample was total coliform-positive and also *E. coli*-positive. At least 1 of the check samples was also total coliform-positive. This PWS would therefore have an acute MCL violation because a Distribution (D) sample was both total coliform-positive and fecal coliform-positive, and at least 1 of the associated check samples was total coliform-positive. There is also a monthly MCL violation because the system had 2 or more total coliform-positive sample results. The positive check sample must be included in determining compliance with the monthly MCL.

Repeat check samples: Additional check samples would **not** be required because the system is in violation of the TCR MCL.

Case #C/Example Screenshots:

SDWA-S Printer Friendly View and Edit Screen:

Department of Environmental Protection																	
Bureau of Safe Drinking Water																	
E-Government Application for Drinking Water Program																	
Operations and Monitoring Division																	
SAFE DRINKING WATER ACT																	
VIEW and EDIT RECORDS																	
Click here for a Printer Friendly Version																	
View a Monitoring Calendar																	
SDWA-S																	
Current Lab Certifications								Contaminants not Requiring Certification									
<input type="checkbox"/>	PWSID	Contam ID	Analysis Meth	No. of Routine Samples Req'd	No. of Routine Samples Taken	No. of Routine Samples out of Compliance	No. of Check Samples out of Compliance	Sample Type	Last Sample Date	Lab ID	No. of Check Samples Taken	Loc/EP ID	Sample Period Begin Date	Sample Period End Date	Sample ID	Average Result	Record ID
<input type="checkbox"/>	1234302	3100	331	1	1	1	2	D	093015	23455	4		070115	093015			STUDENTE_205

Additional triggered source water samples: Because the triggered source water sample was E. coli-positive, *5 additional source water* samples are required to be collected within 24 hours of being notified of the positive source water sample unless DEP directs the system to take a corrective action.

SDWA 1 Printer Friendly View and Edit Screen (Analysis Method Code 331):

Department of Environmental Protection													
Bureau of Safe Drinking Water													
E-Government Application for Drinking Water Program													
Operations and Monitoring Division													
SAFE DRINKING WATER ACT													
VIEW and EDIT RECORDS													
Click here for a Printer Friendly Version													
View a Monitoring Calendar													
SDWA-1													
Current Lab Certifications							Contaminants not Requiring Certification						
<input type="checkbox"/>	PWSID	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID	Record ID
<input type="checkbox"/>				Sort Entry Point Chlorine									
<input type="checkbox"/>	1234302	3100	331	1.0	100115	701		093015	D	1100	23455	PR1	STUDENTE_206
<input type="checkbox"/>	1234302	3100	331	0.0	100215	701		100115	C	1300	23455	PR2	STUDENTE_207
<input type="checkbox"/>	1234302	3100	331	0.0	100215	701		100115	C	1310	23455	PR3	STUDENTE_208
<input type="checkbox"/>	1234302	3100	331	1.0	100215	701		100115	C	1315	23455	PR4	STUDENTE_209
<input type="checkbox"/>	1234302	3100	331	1.0	100215	701		100115	C	1320	23455	PR5	STUDENTE_210
<input type="checkbox"/>	1234302	3114	331	1.0	100115	701		093015	D	1100	23455	PR6	STUDENTE_211
<input type="checkbox"/>	1234302	3114	331	0.0	100215	701		100115	C	1315	23455	PR7	STUDENTE_212
<input type="checkbox"/>	1234302	3114	331	1.0	100215	701		100115	C	1320	23455	PR8	STUDENTE_213

One (1) Triggered Source Water Sample (“R”) is Required Because the System Does Not Provide 4-Log Treatment of Viruses for the Groundwater Well.

Analysis Method Code 331 is a simultaneous method; therefore a positive *E.coli* (‘3114’) is reported.

SAFE DRINKING WATER ACT													
VIEW and EDIT RECORDS													
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SDWA-1													
Current Lab Certifications						Contaminants not Requiring Certification							
<input type="checkbox"/>	PWSID	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID	Record ID
	Sort							Sort			Sort		
<input checked="" type="checkbox"/>	1234302	3114	331	1.0	100210	001		100110	R	1345	23455		STUDENTE_512

In completing the SDWA-S form, remember that the **Last Sample Date** is the date of the last **ROUTINE** sample. The last routine sample was in September although the check samples, of necessity, were taken in October. Therefore the last sample date reported on the summary form is September 30.

Notification: *The laboratory must notify the public water supplier by telephone within 1 hour of the laboratory obtaining a positive result for the original distribution sample and again within 1 hour of the laboratory obtaining a positive E. coli result for the triggered source water sample. If the supplier cannot be reached within that time, the laboratory must notify DEP by telephone within 2 hours of the determination with the information listed above. The laboratory must also notify the local DEP or CHD office in writing within 24 hours of discovery of the coliform-positive samples. The water supplier must, in turn, notify the local DEP or CHD office within 1 hour of knowledge of the coliform-positive samples and E. coli-positive triggered source water sample.*

Additional Routine Sample(s): *Any PWS collecting fewer than 5 routine samples per month must collect 5 routine samples the month after any coliform-positive sample.* Therefore, this PWS must collect 5 routine samples in October. If all 5 of those samples are total coliform-negative, then the PWS may revert back to 1 sample per quarter and the routine samples from October would satisfy the monitoring requirements for the Oct-Dec quarter. DEP has the discretion to reduce the number of samples required the next month to no less than 1 sample.

Case #D: Noncommunity System-Positive Routine Sample but No Violation; Positive Triggered Source Water Sample

The Bigfoot County Campground (PWS ID 1234304) is a groundwater noncommunity system that must collect 1 routine sample per quarter for total coliform analysis. This system does not provide 4-log treatment of viruses for its two wells (Source ID# 001 and 002). Using the membrane filter method (Method Code 323), the following results were obtained for the quarter July-September 2015.

<u>Sample Date</u>	<u>Analysis Date</u>	<u>Sample Type</u>	<u>TC Result</u>	<u>E. coli Result</u>
08/10/15	08/11/15	D	1	0
08/11/15	08/12/15	C	0	Not Needed
08/11/15	08/12/15	C	0	Not Needed
08/11/15	08/12/15	C	0	Not Needed
08/11/15	08/12/15	C	0	Not Needed
08/11/15	08/12/15	R (001)	-	0
08/11/15	08/12/15	R (002)	-	1*

* Triggered source water samples are **not** used to determine compliance with an MCL; however, because a triggered source water sample was *E. coli*-positive, an acute situation exists that requires **timely notification and Tier 1 Public Notification**.

There are **no MCL violations** (monthly or acute) for this case, because only the routine distribution sample was determined to be total coliform positive.

Because this PWS takes 1 or less routine samples per month (1 sample per quarter), **4 check samples are required** when the routine sample is total coliform-positive.

Notification: The laboratory must notify the public water supplier by telephone within 1 hour of the laboratory obtaining a positive result for the original distribution sample and again within 1 hour of the laboratory obtaining a positive *E. coli* result for the triggered source water sample. If the supplier cannot be reached within that time, the laboratory must notify DEP by telephone within 2 hours of the determination with the information listed above. The laboratory must also notify the local DEP or CHD office in writing within 24 hours of discovery of the coliform-positive sample. The water supplier must, in turn, notify the local DEP or CHD office within 1 hour of knowledge of the coliform-positive and *E. coli*-positive samples.

Additional triggered source water samples: Because one of the triggered source water samples was *E. coli*-positive, the system must take 5 additional source water samples from Source 002 within 24 hours of being notified of the positive source water sample unless DEP directs the system to take a corrective action.

Next month's samples: Although no TCR violation occurred, this water supplier must collect 5 routine distribution system samples the following month (September). This is a requirement for any PWS that collects fewer than 5 routine samples per month and obtains a total coliform-positive result. DEP has the discretion to reduce the next month's requirement to no less than 1 sample.

Case #D/Example Screenshots:

SDWA-S View/Edit Screen:

Department of Environmental Protection Bureau of Safe Drinking Water E-Government Application for Drinking Water Program Operations and Monitoring Division																
SAFE DRINKING WATER ACT VIEW and EDIT RECORDS Click here for a Printer Friendly Version View a Monitoring Calendar																
SDWA-S																
Current Lab Certifications										Contaminants not Requiring Certification						
PWSID	Contam ID	Analysis Meth	No. of Routine Samples Req'd	No. of Routine Samples Taken	No. of Routine Samples out of Compliance	No. of Check Samples out of Compliance	Sample Type	Last Sample Date	Lab ID	No. of Check Samples Taken	Loc/EP ID	Sample Period Begin Date	Sample Period End Date	Sample ID	Average Result	Record ID
<input type="checkbox"/>	Sort								Sort							
<input type="checkbox"/>	1234304	3100	323	1	1	1	0	D	081015	68801		070115	093015	PR		STUDENTE_156

*One (1) triggered source water sample is required **per** well because the PWS does **not** provide 4-Log Treatment of viruses for the **two** groundwater wells (Locations 001 and 002).*

SDWA-1 View/Edit Screen (Analysis Method Code 323):

Department of Environmental Protection Bureau of Safe Drinking Water E-Government Application for Drinking Water Program Operations and Monitoring Division													
SAFE DRINKING WATER ACT VIEW and EDIT RECORDS Click here for a Printer Friendly Version View a Monitoring Calendar													
SDWA-1													
Current Lab Certifications							Contaminants not Requiring Certification						
PWSID	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID	Record ID	
<input type="checkbox"/>	Sort						Sort			Sort			
<input type="checkbox"/>	1234304	3100	323	1.0	081115	701	081015	D	0800	68801	PR1	STUDENTE_148	
<input type="checkbox"/>	1234304	3114	323	0.0	081115	701	081015	D	0800	68801	PR2	STUDENTE_153	
<input type="checkbox"/>	1234304	3100	323	0.0	081215	701	081115	C	1245	68801	PR3	STUDENTE_149	
<input type="checkbox"/>	1234304	3100	323	0.0	081215	701	081115	C	1300	68801	PR4	STUDENTE_150	
<input type="checkbox"/>	1234304	3100	323	0.0	081215	701	081115	C	1315	68801	PR5	STUDENTE_151	
<input type="checkbox"/>	1234304	3100	323	0.0	081215	701	081115	C	1330	68801	PR6	STUDENTE_152	
<input type="checkbox"/>	1234304	3114	323	0.0	081215	001	081115	R	1345	68801	PRR1	STUDENTE_154	
<input type="checkbox"/>	1234304	3114	323	1.0	081215	002	081115	R	1400	68801	PRR2	STUDENTE_155	

Case #E: Community System-No Violation

Crystal Clear Water Co (PWS ID 1234004) serves a population of 6,200 and must collect 7 routine samples from its distribution system per month for total coliform analysis. This system provides 4-log treatment of viruses for its groundwater sources. By the membrane filter method (Method Code 325), the following results were obtained for the month of August 2015.

<u>Sample Date</u>	<u>Analysis Date</u>	<u>Sample Type</u>	<u>TC Result</u>	<u>Fecal Coliform Result</u>
08/01/15	08/02/15	D	0	Not Needed
08/05/15	08/06/15	D	0	Not Needed
08/12/15	08/13/15	D	0	Not Needed
08/14/15	08/15/15	D	0	Not Needed
08/19/15	08/20/15	D	0	Not Needed
08/21/15	08/22/15	D	0	Not Needed
08/22/15	08/23/15	D	0	Not Needed

Because all of the required samples were taken and were total coliform-negative, no fecal analysis or check samples were required. If reported correctly, this PWS would be in compliance for the month of August. A completed *SDWA-S Summary Analysis* form and *SDWA-1 form* for this example is shown in on the following page in this document.

Case #E/Example Screenshots:

SDWA-S Printer Friendly View and Edit Screen:



 Bureau of Safe Drinking Water E-Government Application for Drinking Water Program Operations and Monitoring Division


SAFE DRINKING WATER ACT

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SDWA-S

Current Lab Certifications						Contaminants not Requiring Certification											
<input type="checkbox"/>	PWSID	Contam ID	Analysis Meth	No. of Routine Samples Req'd	No. of Routine Samples Taken	No. of Routine Samples out of Compliance	No. of Check Samples out of Compliance	Sample Type	Last Sample Date	Lab ID	No. of Check Samples Taken	Loc/EP ID	Sample Period Begin Date	Sample Period End Date	Sample ID	Average Result	Record ID
Sort										Sort							
<input type="checkbox"/>	1234004	3100	325	7	7	0	0	D	082215	30323	0		080115	083015			STUDENTE_157

SDWA-1 View/Edit Screen (Analysis Method Code 325):



 Bureau of Safe Drinking Water E-Government Application for Drinking Water Program Operations and Monitoring Division

SAFE DRINKING WATER ACT

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SDWA-1

Current Lab Certifications						Contaminants not Requiring Certification							
<input type="checkbox"/>	PWSID	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID	Record ID
Sort				Sort Entry Point Chlorine			Sort						
<input type="checkbox"/>	1234004	3100	325	0.0	080215	702		080115	D	0800	30323	PR1	STUDENTE_543
<input type="checkbox"/>	1234004	3100	325	0.0	080615	702		080515	D	0810	30323	PR2	STUDENTE_544
<input type="checkbox"/>	1234004	3100	325	0.0	081315	702		081215	D	0800	30323	PR3	STUDENTE_545
<input type="checkbox"/>	1234004	3100	325	0.0	081515	702		081415	D	0815	30323	PR4	STUDENTE_546
<input type="checkbox"/>	1234004	3100	325	0.0	082015	702		081915	D	0805	30323	PR5	STUDENTE_547
<input type="checkbox"/>	1234004	3100	325	0.0	082215	702		082115	D	0820	30323	PR6	STUDENTE_548
<input type="checkbox"/>	1234004	3100	325	0.0	082315	702		082215	D	0825	30323	PR7	STUDENTE_549

Case #F: Community System-Monthly MCL Violation

The Great Aquifer Water Company (PWS ID 1234005) serves a population of 12,750. The PWS must collect and analyze 10 routine total coliform samples from several (5 in total) locations within the distribution system per month. This system provides 4-log treatment of viruses for its groundwater sources. The following results were obtained for the month of September 2015 by the fermentation tube method (Method Code 326):

<u>Sample Date</u>	<u>Analysis Date</u>	<u>Sample Type</u>	<u>TC Result</u>	<u>Fecal Coliform Result</u>
09/01/15	09/02/15	D	0	Not Needed
09/03/15	09/04/15	D	0	Not Needed
09/05/15	09/06/15	D	1	0
09/07/15	09/08/15	C	0	Not Needed
09/07/15	09/08/15	C	0	Not Needed
09/07/15	09/08/15	C	1	0
09/09/15	09/10/15	D	0	Not Needed
09/12/15	09/13/15	D	0	Not Needed
09/14/15	09/15/15	D	0	Not Needed
09/15/15	09/16/15	D	1	0
09/17/15	09/18/15	C	0	Not Needed
09/17/15	09/18/15	C	0	Not Needed
09/17/15	09/18/15	C	0	Not Needed
09/19/15	09/20/15	D	0	Not Needed
09/21/15	09/22/15	D	0	Not Needed
09/22/15	09/23/15	D	0	Not Needed

Two distribution samples, 09/05/15 and 09/15/15, were total coliform-positive. Both samples were found, in the second step of the method, to be fecal coliform-negative. Three check samples were analyzed in response to each of the positive distribution samples. One of the check samples on 09/07/15 was found to be total coliform-positive, but fecal-negative. Because this PWS took less than 40 samples and 3 samples were found to be total coliform-positive, this PWS has a **monthly MCL violation** for the month of September. The positive check sample on 09/07/15 is included in determining compliance with the monthly MCL.

Normally, the PWS staff would be required to take 3 additional check samples in response to the total coliform-positive check sample on 09/07/15. However, because 2 total coliform-positive samples (1 routine and 1 check) had been analyzed and a monthly MCL violation already existed, the additional check samples are not necessary.

The PWS is **not**, however, exempt from taking 3 check samples in response to the positive distribution sample on 09/15/15. ***Check samples must be taken in response to all positive routine distribution samples.*** If fecal coliforms were detected in any of the check samples, the PWS would also have an *acute violation* in addition to the monthly violation. The following pages show the properly completed SDWA-S form and SDWA-1 forms as they would appear in DWELR.


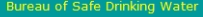
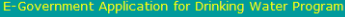

Case #F/Example Screenshots:

SDWA S-Summary Analysis View and Edit form:

Department of Environmental Protection Bureau of Safe Drinking Water E-Government Application for Drinking Water Program Operations and Monitoring Division																	
SAFE DRINKING WATER ACT VIEW and EDIT RECORDS Click here for a Printer Friendly Version View a Monitoring Calendar																	
SDWA-S																	
Current Lab Certifications										Contaminants not Requiring Certification							
<input type="checkbox"/>	PWSID	Contam ID	Analysis Meth	No. of Routine Samples Req'd	No. of Routine Samples Taken	No. of Routine Samples out of Compliance	No. of Check Samples out of Compliance	Sample Type	Last Sample Date	Lab ID	No. of Check Samples Taken	Loc/EP ID	Sample Period Begin Date	Sample Period End Date	Sample ID	Average Result	Record ID
<input type="checkbox"/>	Sort									Sort							
<input type="checkbox"/>	1234005	3100	326	10	10	2	1	D	092215	12345	6		090115	093015			STUDENTE_169

Notification: The laboratory must notify the public water supplier by telephone within 1 hour of the laboratory obtaining a positive result for the original distribution sample. If the supplier cannot be reached within that time, the laboratory must notify DEP by telephone within 2 hours of the determination with the information listed above. The laboratory must also notify the local DEP or CHD office in writing within 24 hours of discovery of the coliform-positive samples. The water supplier must, in turn, notify the local DEP or CHD office within 1 hour of knowledge of the coliform-positive samples.

SDWA-1 View and Edit Records screen (Analysis Method Code 326):

   													
SAFE DRINKING WATER ACT VIEW and EDIT RECORDS Click here for a Printer Friendly Version View a Monitoring Calendar													
SDWA-1													
<input type="checkbox"/> Current Lab Certifications <input type="checkbox"/> Contaminants not Requiring Certification													
<input type="checkbox"/>	PWSID	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID	Record ID
	Sort				Sort Entry Point Chlorine			Sort			Sort		
<input type="checkbox"/>	1234005	3100	326	0.0	090215	701		090115	D	1100	12345	pr01	STUDENTE_550
<input type="checkbox"/>	1234005	3100	326	0.0	090415	702		090315	D	1110	12345	pr02	STUDENTE_551
<input type="checkbox"/>	1234005	3100	326	1.0	090615	703		090515	D	1050	12345	pr03a	STUDENTE_552
<input type="checkbox"/>	1234005	3113	326	0.0	090615	703		090515	D	1050	12345	pr03b	STUDENTE_553
<input type="checkbox"/>	1234005	3100	326	0.0	090815	703		090715	C	1050	12345	pr04	STUDENTE_554
<input type="checkbox"/>	1234005	3100	326	0.0	090815	703		090715	C	1100	12345	pr05	STUDENTE_555
<input type="checkbox"/>	1234005	3100	326	1.0	090815	703		090715	C	1110	12345	pr06a	STUDENTE_556
<input type="checkbox"/>	1234005	3113	326	0.0	090815	703		090715	C	1110	12345	pr06b	STUDENTE_557
<input type="checkbox"/>	1234005	3100	326	0.0	091015	704		090915	D	0800	12345	pr07	STUDENTE_558
<input type="checkbox"/>	1234005	3100	326	0.0	091315	705		091215	D	0810	12345	pr08	STUDENTE_559
<input type="checkbox"/>	1234005	3100	326	0.0	091515	706		091415	D	0750	12345	pr09	STUDENTE_560
<input type="checkbox"/>	1234005	3100	326	1.0	091615	707		091515	D	0800	12345	pr10a	STUDENTE_561
<input type="checkbox"/>	1234005	3113	326	0.0	091615	707		091515	D	0800	12345	pr10b	STUDENTE_562
<input type="checkbox"/>	1234005	3100	326	0.0	091815	707		091715	C	0900	12345	pr11	STUDENTE_563
<input type="checkbox"/>	1234005	3100	326	0.0	091815	707		091715	C	0910	12345	pr12	STUDENTE_564
<input type="checkbox"/>	1234005	3100	326	0.0	091815	707		091715	C	0800	12345	pr13	STUDENTE_565
<input type="checkbox"/>	1234005	3100	326	0.0	092015	708		091915	D	1310	12345	pr14	STUDENTE_566
<input type="checkbox"/>	1234005	3100	326	0.0	092215	709		092115	D	1250	12345	pr15	STUDENTE_567
<input type="checkbox"/>	1234005	3100	326	0.0	092315	710		092215	D	1300	12345	pr16	STUDENTE_568

Case #G: Community System-Acute MCL Violation

The Urban Consolidated Water Authority (PWS ID 1234006) serves a population of 122,000 and must collect 100 routine samples from its distribution system per month for total coliform analysis. This system uses surface water sources. By the *presence/absence* method (Method Code 328), all routine distribution samples for the month of October 2015 were negative except for 3 samples. The results of the 3 total coliform-positive samples and the associated check samples are shown below:

<u>Sample Date</u>	<u>Analysis Date</u>	<u>Sample Type</u>	<u>TC Result</u>	<u>Fecal Coliform Result</u>
10/07/15	10/08/15	D	1	0
10/09/15	10/10/15	C	0	Not Needed
10/09/15	10/10/15	C	1	1
10/09/15	10/10/15	C	0	Not Needed
10/07/15	10/08/15	D	1	0
10/09/15	10/10/15	C	0	Not Needed
10/09/15	10/10/15	C	0	Not Needed
10/09/15	10/10/15	C	0	Not Needed
10/08/15	10/09/15	D	1	0
10/11/15	10/12/15	C	0	Not Needed
10/11/15	10/12/15	C	0	Not Needed
10/11/15	10/12/15	C	0	Not Needed

A total of 109 samples were taken - 100 routine samples plus 9 check samples. There were a total of 4 total coliform-positive samples; 3 routine samples plus 1 check sample. According to the calculation below, 3.7 percent of the samples were total coliform-positive:

$$[4 \text{ (positive samples)} \div 109 \text{ (total samples)}] \times 100 = 3.667\% \text{ (which rounds to 3.7\%)}$$

For a PWS taking 40 or more samples per month, if *more than 5.0* percent of all the samples taken are total coliform-positive then a monthly MCL exists. In this example, only 3.7 percent of the samples taken were total coliform-positive. Therefore, there is no violation of the monthly MCL.

Normally, an additional 3 check samples would be triggered by the check sample that was total coliform-positive. However, because the check sample was also fecal-positive, an acute MCL violation exists. This negates the need for any additional check samples. The following pages show the properly completed SDWA-S form and SDWA-1 forms as they would appear in DWELR.

Notification: The laboratory must notify the public water supplier by telephone within 1 hour of the laboratory obtaining a positive result for the original distribution sample. If the supplier cannot be reached within that time, the laboratory must notify DEP by telephone within 2 hours of the determination with the information listed above. The laboratory must also notify the local DEP or CHD office in writing within 24 hours of discovery of the coliform-positive samples. The water supplier must, in turn, notify the local DEP or CHD office within 1 hour of knowledge of the coliform-positive samples.

SDWA-S View and Edit Records screen:

PENNSYLVANIA Department of Environmental Protection Bureau of Safe Drinking Water E-Government Application for Drinking Water Program Operations and Monitoring Division																	
SAFE DRINKING WATER ACT																	
VIEW and EDIT RECORDS																	
Click here for a Printer Friendly Version View a Monitoring Calendar																	
SDWA-S																	
Current Lab Certifications						Contaminants not Requiring Certification											
<input type="checkbox"/>	PWSID	Contam ID	Analysis Meth	No. of Routine Samples Req'd	No. of Routine Samples Taken	No. of Routine Samples out of Compliance	No. of Check Samples out of Compliance	Sample Type	Last Sample Date	Lab ID	No. of Check Samples Taken	Loc/EP ID	Sample Period Begin Date	Sample Period End Date	Sample ID	Average Result	Record ID
<input type="checkbox"/>	Sort									Sort							
<input type="checkbox"/>	1234006	3100	328	100	100	3	1	D	102715	68000	9		100115	103115			STUDENTE_186

SDWA-1 View and Edit Records screen (Analysis Method Code 328):

PENNSYLVANIA Department of Environmental Protection Bureau of Safe Drinking Water E-Government Application for Drinking Water Program Operations and Monitoring Division													
SAFE DRINKING WATER ACT													
VIEW and EDIT RECORDS													
Click here for a Printer Friendly Version View a Monitoring Calendar													
SDWA-1													
Current Lab Certifications					Contaminants not Requiring Certification								
<input type="checkbox"/>	PWSID	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID	Record ID
<input type="checkbox"/>	Sort				Sort	Sort	Sort	Sort			Sort		
<input type="checkbox"/>	1234006	3100	328	1.0	100815	721		100715	D	0830	68000	1TC+	STUDENTE_590
<input type="checkbox"/>	1234006	3100	328	0.0	101015	721	328	100915	C	1100	68000	7TC+C	STUDENTE_591
<input type="checkbox"/>	1234006	3100	328	1.0	101015	721		100915	C	1115	68000	8TC+C2	STUDENTE_592
<input type="checkbox"/>	1234006	3100	328	0.0	101015	721		100915	C	1130	68000	10TC+C3	STUDENTE_593
<input type="checkbox"/>	1234006	3113	328	0.0	100815	721		100715	D	0830	68000	2FC-	STUDENTE_594
<input type="checkbox"/>	1234006	3113	328	1.0	101015	721		101015	C	1115	68000	9FC+C2	STUDENTE_595
<input type="checkbox"/>	1234006	3100	328	1.0	100915	722		100715	D	0745	68000	3TC2+	STUDENTE_580
<input type="checkbox"/>	1234006	3100	328	0.0	101015	722		100915	C	1045	68000	11TC2+C	STUDENTE_581
<input type="checkbox"/>	1234006	3100	328	0.0	101015	722		100915	C	1100	68000	12TC2+C2	STUDENTE_582
<input type="checkbox"/>	1234006	3100	328	0.0	101015	722		100915	C	1115	68000	13TC2+C3	STUDENTE_583
<input type="checkbox"/>	1234006	3113	328	0.0	100915	722		100715	D	0745	68000	4FC2-	STUDENTE_584
<input type="checkbox"/>	1234006	3100	328	1.0	100915	725	328	100815	D	0900	68000	5TC3+	STUDENTE_585
<input type="checkbox"/>	1234006	3100	328	0.0	101215	725		101115	C	1030	68000	14TC3+3	STUDENTE_586
<input type="checkbox"/>	1234006	3100	328	0.0	101215	725		101115	C	1045	68000	15TC3+C2	STUDENTE_587
<input type="checkbox"/>	1234006	3100	328	0.0	101215	725		101115	C	1015	68000	16TC3+C3	STUDENTE_588
<input type="checkbox"/>	1234006	3113	328	0.0	100915	725		100815	D	0900	68000	6FC3-	STUDENTE_589

Case #H: Community System-Acute MCL Violation (Resulting from a Failure to Analyze for Fecal Coliform)

The Bull Run Water Company (PWS ID 1234007) serves a population of 7,500. The PWS must take 8 monthly total coliform samples. This system provides 4-log treatment of viruses for its groundwater sources. Using the presence-absence method (Method Code 328), the following results were obtained for the month of December 2014.

<u>Sample Date</u>	<u>Analysis Date</u>	<u>Sample Type</u>	<u>TC Result</u>	<u>Fecal Coliform Result</u>
12/02/14	12/03/14	D	0	Not Needed
12/05/14	12/06/14	D	0	Not Needed
12/09/14	12/10/14	D	1	Not Reported*
12/11/14	12/12/14	C	1	Not Reported*
12/11/14	12/12/14	C	0	Not Needed
12/11/14	12/12/14	C	0	Not Needed
12/12/14	12/13/14	D	0	Not Needed
12/16/14	12/17/14	D	0	Not Needed
12/19/14	12/20/14	D	0	Not Needed
12/23/14	12/24/14	D	0	Not Needed
12/26/14	12/27/14	D	0	Not Needed

** - The routine distribution system sample taken on December 09, 2014 was total coliform-positive, but either the PWS asked the laboratory not to analyze for fecal coliform or the laboratory failed to analyze for fecal coliform. Under such circumstances, DEP assumes that the total coliform-positive sample is also fecal-positive. One of the check samples (taken on December 11, 2014) was also total coliform-positive and no fecal analysis results were reported. It, too, is assumed to be fecal-positive. This combination of events results in an acute violation for the water supplier. There is also a *monthly MCL violation* because 2 samples out of 11 are total coliform-positive.*

Notification: The laboratory must notify the public water supplier by telephone within 1 hour of the laboratory obtaining a positive result for the original distribution sample. If the supplier cannot be reached within that time, the laboratory must notify DEP by telephone within 2 hours of the determination with the information listed above. The laboratory must also notify the local DEP or CHD office in writing within 24 hours of discovery of the coliform-positive samples. The water supplier must, in turn, notify the local DEP or CHD office within 1 hour of knowledge of the coliform-positive samples.

Case #H/Example Screenshots:

SDWA-S View and Edit Records screen:

Department of Environmental Protection
Bureau of Safe Drinking Water
E-Government Application for Drinking Water Program
Operations and Monitoring Division

SAFE DRINKING WATER ACT
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SDWA-S

Current Lab Certifications					Contaminants not Requiring Certification											
PWSID	Contam ID	Analysis Meth	No. of Routine Samples Req'd	No. of Routine Samples Taken	No. of Routine Samples out of Compliance	No. of Check Samples out of Compliance	Sample Type	Last Sample Date	Lab ID	No. of Check Samples Taken	Loc/EP ID	Sample Period Begin Date	Sample Period End Date	Sample ID	Average Result	Record ID
<input type="checkbox"/>	1234007	3100	328	8	8	1		D	122614	01888	3		120114	123114		STUDENTE_191

SDWA-1 View and Edit Records screen (Analysis Method Code 328):

Department of Environmental Protection
Bureau of Safe Drinking Water
E-Government Application for Drinking Water Program
Operations and Monitoring Division

SAFE DRINKING WATER ACT
VIEW and EDIT RECORDS
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View a Monitoring Calendar

SDWA-1

Current Lab Certifications					Contaminants not Requiring Certification								
PWSID	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID	Record ID	
<input type="checkbox"/>	1234007	3100	328	0.0	120314	703	120214	D	0800	01888	1PRTC	STUDENTE_576	
<input type="checkbox"/>	1234007	3100	328	0.0	120614	703	120514	D	0810	01888	2PRTC	STUDENTE_577	
<input type="checkbox"/>	1234007	3100	328	1.0	121014	704	120914	D	1010	01888	3PRTC+	STUDENTE_187	
<input type="checkbox"/>	1234007	3100	328	1.0	121214	704	121114	C	0945	01888	9PRTC+C+	STUDENTE_188	
<input type="checkbox"/>	1234007	3100	328	0.0	121214	704	121114	C	1000	01888	10PRTC+C-	STUDENTE_189	
<input type="checkbox"/>	1234007	3100	328	0.0	121214	704	121114	C	1020	01888	11PRTC+C2-	STUDENTE_190	
<input type="checkbox"/>	1234007	3100	328	0.0	121314	704	121214	D	1000	01888	4PRTC	STUDENTE_571	
<input type="checkbox"/>	1234007	3100	328	0.0	121714	705	121614	D	0830	01888	5PRTC	STUDENTE_572	
<input type="checkbox"/>	1234007	3100	328	0.0	122014	705	121914	D	0845	01888	6PRTC	STUDENTE_573	
<input type="checkbox"/>	1234007	3100	328	0.0	122414	706	122314	D	0915	01888	7PRTC	STUDENTE_574	
<input type="checkbox"/>	1234007	3100	328	0.0	122714	706	122614	D	0930	01888	8PRTC	STUDENTE_575	

▲ Note: The required follow-up fecal analysis was missed on 2 total coliform-positive samples. Therefore, the total coliform-positive samples would be assumed to be fecal-positive.

Case #I: Community System-Monitoring Violations

The Executive Estates Water Company (PWS ID 1234008) has 2 wells serving 4,500 people, and must take 5 monthly total coliform samples. This system provides 4-log treatment of viruses for its groundwater sources. By the membrane filter method (Method Code 325), the following results were reported for the month of October 2015.

<u>Sample Date</u>	<u>Analysis Date</u>	<u>Sample Type</u>	<u>TC Result</u>	<u>Fecal Coliform Result</u>
10/07/15	10/08/15	D	0	Not Needed
10/14/15	10/15/15	D	0	Not Needed
10/21/15	10/22/15	D	1	0
10/23/15	10/24/15	C	0	Not Needed
10/23/15	10/24/15	C	0	Not Needed

Monitoring and check sample violations:

Only 3, instead of 5, routine distribution system sample results were reported. Therefore, a monitoring violation exists. In addition, 1 of the samples was total coliform-positive, and only 2, instead of 3 check samples were reported. Therefore, this system will also incur a check sampling violation. The following pages show the properly completed SDWA-S form and SDWA-1 forms as they would appear in DWELR.

The laboratory should have notified the public water supplier by telephone within 1 hour of the laboratory obtaining a positive result for the original distribution sample. If the supplier cannot be reached within that time, the laboratory must notify DEP by telephone within 2 hours of the determination with the information listed above. The laboratory must also notify the local DEP or CHD office in writing within 24 hours of discovery of the coliform-positive samples. The water supplier must, in turn, notify the local DEP or CHD office within 1 hour of knowledge of the coliform-positive samples.

Case I/Example Screenshots:

SDWA-S View and Edit Records screen:

SAFE DRINKING WATER ACT																	
VIEW and EDIT RECORDS																	
Click here for a Printer Friendly Version																	
View a Monitoring Calendar																	
SDWA-S																	
Current Lab Certifications										Contaminants not Requiring Certification							
<input type="checkbox"/>	PWSID	Contam ID	Analysis Meth	No. of Routine Samples Req'd	No. of Routine Samples Taken	No. of Routine Samples out of Compliance	No. of Check Samples out of Compliance	Sample Type	Last Sample Date	Lab ID	No. of Check Samples Taken	Loc/EP ID	Sample Period Begin Date	Sample Period End Date	Sample ID	Average Result	Record ID
<input type="checkbox"/>	Sort									Sort							
<input type="checkbox"/>	1234008	3100	325	5	3	1	0	D	102115	30223	2		100115	103115			STUDENTE_196

SDWA-1 View and Edit Records screen (Analysis Method Code 325):

SAFE DRINKING WATER ACT																
VIEW and EDIT RECORDS																
Click here for a Printer Friendly Version																
View a Monitoring Calendar																
SDWA-1																
Current Lab Certifications										Contaminants not Requiring Certification						
<input type="checkbox"/>	PWSID	Contam ID	Analysis Method	Result	Analysis Date	Location ID 1	Location ID 2	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID	Record ID			
<input type="checkbox"/>	Sort							Sort			Sort					
<input type="checkbox"/>				Sort Entry Point Chlorine					Sort			Sort				
<input type="checkbox"/>	1234008	3100	325	0.0	101515	703		101415	D	0830	30223	2PRTC-	STUDENTE_192			
<input type="checkbox"/>	1234008	3100	325	0.0	102415	703		102315	C	1100	30223	1PRTC+C	STUDENTE_193			
<input type="checkbox"/>	1234008	3100	325	0.0	102415	703		102315	C	1200	30223	2PRTC+C2	STUDENTE_194			
<input type="checkbox"/>	1234008	3113	325	0.0	102215	703		102115	D	0815	30223	3PRFC-	STUDENTE_195			
<input type="checkbox"/>	1234008	3100	325	1.0	102215	703		102115	D	0815	30223	3PRTC+	STUDENTE_578			
<input type="checkbox"/>	1234008	3100	325	0.0	100815	703		100715	D	0800	30223	1PRTC-	STUDENTE_579			

Note: The required number of routine samples and the follow-up check samples due to the coliform-positive sample were missed. Therefore, monitoring violations occurred.

**APPENDIX III:
SDWA Data Correction Forms**

Click on the form number to download [3900-FM-BSDW0147](#)



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF SAFE DRINKING WATER

**SDWA-S
CORRECTION**

SUMMARY ANALYSIS

Reason for Correction: _____ _____ _____						
White Areas: Enter the complete information with the correct information.				Shaded Areas: Enter the information which was reported incorrectly. Enter only the data which needs to be changed.		
PWS Name: _____				PWS Name: _____		
PWS Address: _____				PWS Address: _____		
PWS Phone: _____				PWS Phone: _____		
	PWSID	PARAM ID	PARAMETER NAME		SAMPLE TYPE	
correct						
submitted						
	SAMPLING POINT		SAMPLE PERIOD		LAST SAMPLE DATE	
	ID	NAME	MMDDYY to MMDDYY		MMDDYY	
correct			TO			
submitted			TO			
	NUMBER OF SAMPLES			ANALYSIS METHOD	NUMBER OF SAMPLES OUT OF COMPLIANCE	
	ROUTINE REQUIRED	ROUTINE TAKEN	CHECKS TAKEN		ROUTINE	CHECK
correct						
submitted						
	AVERAGE RESULT	LAB ID	SAMPLE ID	APPROVED BY:		
correct				PHONE:		
submitted				DATE:		

Click on the form number to download [3900-FM-BSDW0143](#)



COMMONWEALTH OF PENNSYLVANIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 BUREAU OF SAFE DRINKING WATER

**BACTERIOLOGICAL / RESIDUAL DISINFECTANT /
 TURBIDITY / DBP ANALYSIS**

**SDWA-1
 CORRECTION**

Reason for Correction: _____

White Areas: Enter the complete information with the correct information. **Shaded Areas:** Enter the information which was reported incorrectly. Enter only the data which needs to be changed.

PWS Name:	Reported PWS Name:	CONTAMINANT NAME	
Address: _____	Address: _____		
Phone:	Phone:		
PWS ID:	PWS ID:	CONTAM ID:	CONTAM ID:

	ANALYSIS			LOCATION ID 1	LOCATION ID 2	SAMPLE			
	METHOD	RESULT (Incl. Decimal)	MMDDYY	(Loc, EP or Plant)	(Individual Filter)	MMDDYY	TYPE	TIME	SAMPLE ID
CORRECT DATA									
SUBMITTED DATA									
CORRECT DATA									
SUBMITTED DATA									
CORRECT DATA									
SUBMITTED DATA									
CORRECT DATA									
SUBMITTED DATA									

LAB. NAME: _____	PHONE: _____	LAB ID
APPROVED BY: _____	DATE: _____	

DRAFT

DRAFT