WATER QUALITY PARAMETER REPORTING INSTRUCTIONS for the LEAD AND COPPER RULE

393-3301-XXX

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Safe Drinking Water

DOCUMENT NUMBER:	393-3301-XXX
TITLE:	Water Quality Parameter Reporting Instructions for the Lead and Copper Rule
EFFECTIVE DATE:	Upon publication of notice as final in the *Pennsylvania Bulletin*
AUTHORITY:	Pennsylvania Safe Drinking Water Act, 35 P.S. §§ 721.1 – 721.17
POLICY:	It is the policy of the Department of Environmental Protection (DEP) to provide laboratory directors of accredited laboratories and public water supply personnel with the information necessary to properly report water quality parameter monitoring data for the lead and copper rule, 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 water quality parameters under the lead and copper rule.
APPLICABILITY:	This guidance will apply to all accredited laboratories and public water systems that are required to submit lead and copper, and water quality parameter monitoring results to DEP.
DISCLAIMER:	The policies and procedures outlined in this guidance document are intended to supplement existing requirements. Nothing in the policies or procedures will affect regulatory requirements. The policies and procedures herein are not an adjudication or a regulation. There is no intent on the part of the Department to give these rules 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:	25 pages
DEFINITIONS:	See 25 Pa. Code Chapter 109

TABLE OF CONTENTS

SECTION 1: GENERAL INFORMATION

This manual provides instructions for reporting water quality parameter (WQP) monitoring results as required by the Lead and Copper Rule (LCR) set forth in Subchapter K of 25 Pa. Code Chapter 109.

The LCR applies to all community water systems (CWSs) and to all non-transient non-community water systems (NTNCWSs). The rule classifies these systems based on the population they serve as follows:

Large Systems:	Systems that serve > 50,000 people
Medium Systems:	Systems that serve > 3,300 and ≤ 50,000 people
Small Systems:	Systems that serve ≤ 3,300 people

The primary objective of the LCR is to control lead and copper levels in public drinking water systems through a treatment technique (TT) for corrosion control. Treatment technique requirements consist of optimal corrosion control treatment (OCCT), source water treatment, public education (PE) and lead service line (LSL) replacement. The rule establishes an action level (AL) for lead of 0.015 milligrams per liter (mg/L) and an AL for copper of 1.3 mg/L. 25 Pa. Code § 1102(a). An AL is not an MCL. An AL represents a level at which the system must take additional action to reduce lead or copper levels.

Treatment technique requirements are triggered when an action level (AL) for lead or copper is exceeded, as measured in the 90th percentile in the distribution system. Systems exceeding either the lead or copper AL are required to install OCCT, source water treatment or both. 25 Pa. Code § 1102(b).

As stated in 25 Pa. Code § 1103(a)(2), all large systems and those small/medium systems that exceed an AL are required to monitor for the following WQPs:

- pH
- Alkalinity
- Conductivity
- Water Temperature
- Calcium
- Orthophosphate, when an inhibitor is used
- Silica, when an inhibitor is used

These parameters are used to identify optimal treatment and, once treatment is installed, to determine whether a system remains in compliance with the LCR. Additional information about LCR monitoring/reporting requirements and compliance determinations is detailed in Section 6 and Section 7 of this document.

Water suppliers must measure WQPs at entry points and in the distribution system. **The results of all WQP monitoring must be reported to DEP.** 25 Pa. Code § 1107(a)(2). If a laboratory performs these WQP analyses for a water supplier, the laboratory is required to submit the results to DEP. 25 Pa. Code § 109.810. The laboratory must also provide the results to the water supplier; the format used to report these results to the supplier is a decision to be determined between the lab and the client.

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.

Please read the instructions in this document carefully. Failure to monitor, analyze and report WQP results correctly may result in the water supplier incurring a violation of the Safe Drinking Water Regulations. The results of monitoring conducted under the LCR 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.pa.gov, search: DWELR.

For more information about entering data into DWELR, please see Section 3 of this document or contact the PADWIS Section at 717-772-4018. You will need a user ID and a password issued by DEP to use this service.

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 TT and monitoring violations for the protection of public health.

The **SDWA-4** form is used to report WQP monitoring results. See Section 4 of this manual for details of the reporting procedures.

NOTE: For current DEP Regional and District Office, and County Health Department (CHD) addresses and phone numbers go online to: www.elibrary.dep.state.pa.us/dsweb/Homepage; enter "DEP Office" in the search window.

Dosage readings are NOT reported through DWELR. Dosage information for alkalinity and phosphate/silica inhibitor chemical addition should be reported to the local DEP office as part of the Monthly Operational Report.

Proper reporting and notification of analytical results to DEP is a condition of a laboratory's accreditation. Failure to properly report results may lead to revocation of such accreditation.

SECTION 2: RESPONSIBILITIES OF THE REPORTING ENTITY

Under the provisions of 25 Pa. Code Chapter 109, Safe Drinking Water Regulations, and in accordance with the provisions of the Pennsylvania Safe Drinking Water Act, 35 P.S. §§ 721.1 – 721.17 (SDWA), it is the responsibility of the water supplier to:

1. Submit to DEP, on forms or in electronic format acceptable to DEP, the results of analyses performed by the water supplier under the Safe Drinking Water Regulations. If a laboratory performs these WQP analyses for the water supplier, the *laboratory* is required to submit the results to DEP. The laboratory must also provide the results to the water supplier.

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*.

3. Obtain and maintain DEP's current after-hours emergency response telephone numbers for each applicable regional office.

4. Establish and maintain a standard operating procedure to provide the information needed to report a violation to DEP. This procedure should be verified at least annually.

5. Information recording who collected and analyzed the samples is to be documented and retained by the water supplier. Additionally, records of WQP analyses shall be kept for 12 years. Plant operational log sheets or continuous analyzer recording charts must be retained on file by the water supplier as a permanent record of plant performance.

6. Whenever a WQP excursion occurs for more than 9 days (which indicates a violation of the **treatment technique** for optimal corrosion control):

    a) Notify the appropriate DEP district office within 1 hour of the determination.

    b) Follow the appropriate Tier 2 public notification requirements.

If a public water supplier contracts with an accredited laboratory to conduct the WQP analyses, the laboratory is responsible for the reporting requirements noted in 1-5 above. Additionally, it is also the responsibility of an accredited laboratory to:

1. Notify DEP within 48 hours of termination of the laboratory accreditation from the Environmental Protection Agency (EPA) or another agency with primary enforcement responsibility.

2. Notify each public water supplier served by the laboratory within 48 hours of a:

    a) Failure to renew or DEP denial of renewal of existing accreditation for a category of accreditation.

    b) Revocation of accreditation by DEP under the Safe Drinking Water Regulations.

SECTION 3: ELECTRONIC ASSISTANCE TOOLS

The following electronic assistance tools are available from DEP:

DRINKING WATER ELECTRONIC REPORTING SYSTEM (DWELR)

To report electronically, accredited laboratories and public water systems must use the DEP *DWELR*, in accordance with the Reporting and notification requirements of Section 109.810 and Electronic reporting of Section 109.701(j), respectively. 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 **until the 10th** (up until midnight) of the month following the month in which the analysis is completed or the end of the monitoring period, *whichever is sooner*. On the 11th of each month, all data is cleared from DWELR and passed to the Pennsylvania Drinking Water Information System (PADWIS) for compliance processing.
- View error reports. Upon submittal, the data is checked and, if an error is discovered, 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 717-772-4018 or ra-padwis@pa.gov, for more information about DWELR. When reporting electronically, the laboratory should also 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.

DRINKING WATER REPORTING SYSTEM (DWRS) & 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.

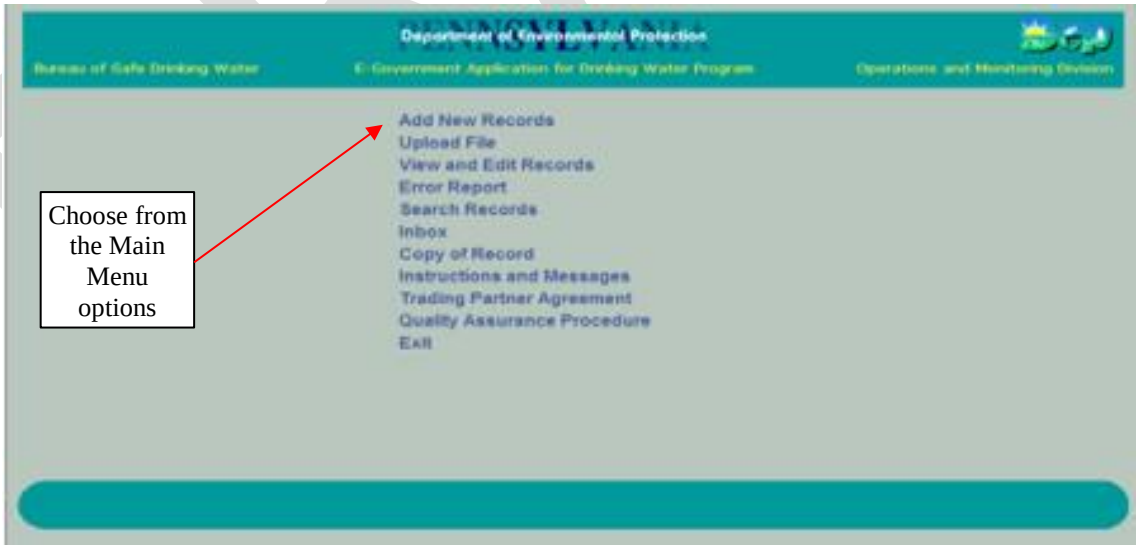
SECTION 4: WQP REPORTING REQUIREMENTS

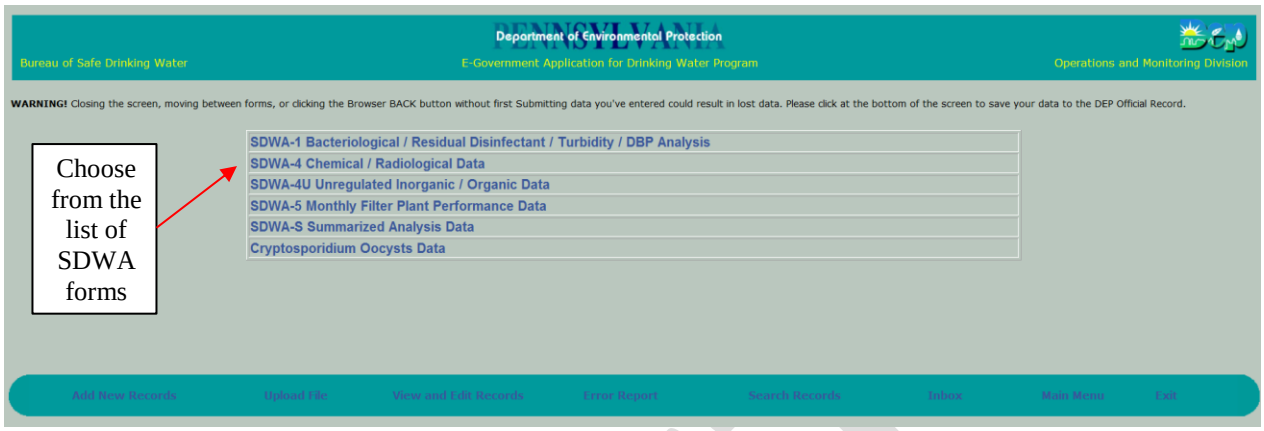
WQP monitoring requirements are based on whether or not the water system has installed OCCT to address a lead and/or copper AL exceedance. See Section 7 for additional information on WQP monitoring requirements.

The WQP reporting requirements are based on the 6-month (or 12-month) period in which monitoring has been conducted.

- The WQP monitoring periods for systems on a 6-month lead and copper tap monitoring frequency is January 1-June 30 and July 1-December 31.
- The WQP monitoring period for systems on an annual or triennial lead and copper tap monitoring frequency is June 1-November 30 of the year in which lead and copper tap monitoring was conducted.
- If an alternate 4-month annual or triennial lead and copper tap monitoring period has been approved by the Department, the WQP monitoring period is the 6-month period that coincides with the start of the alternate 4-month lead and copper tap monitoring period.
- WQP data must be submitted for each 6-month period that WQP monitoring is conducted. WQP results must be reported to DEP no later than 10 days following the end of the month in which monitoring is conducted or the first 10 days following the end of the required monitoring period, *whichever is shorter*.
- All WQP results are submitted on an SDWA-4 form. Enter the result of each sample analyzed. Do not round.

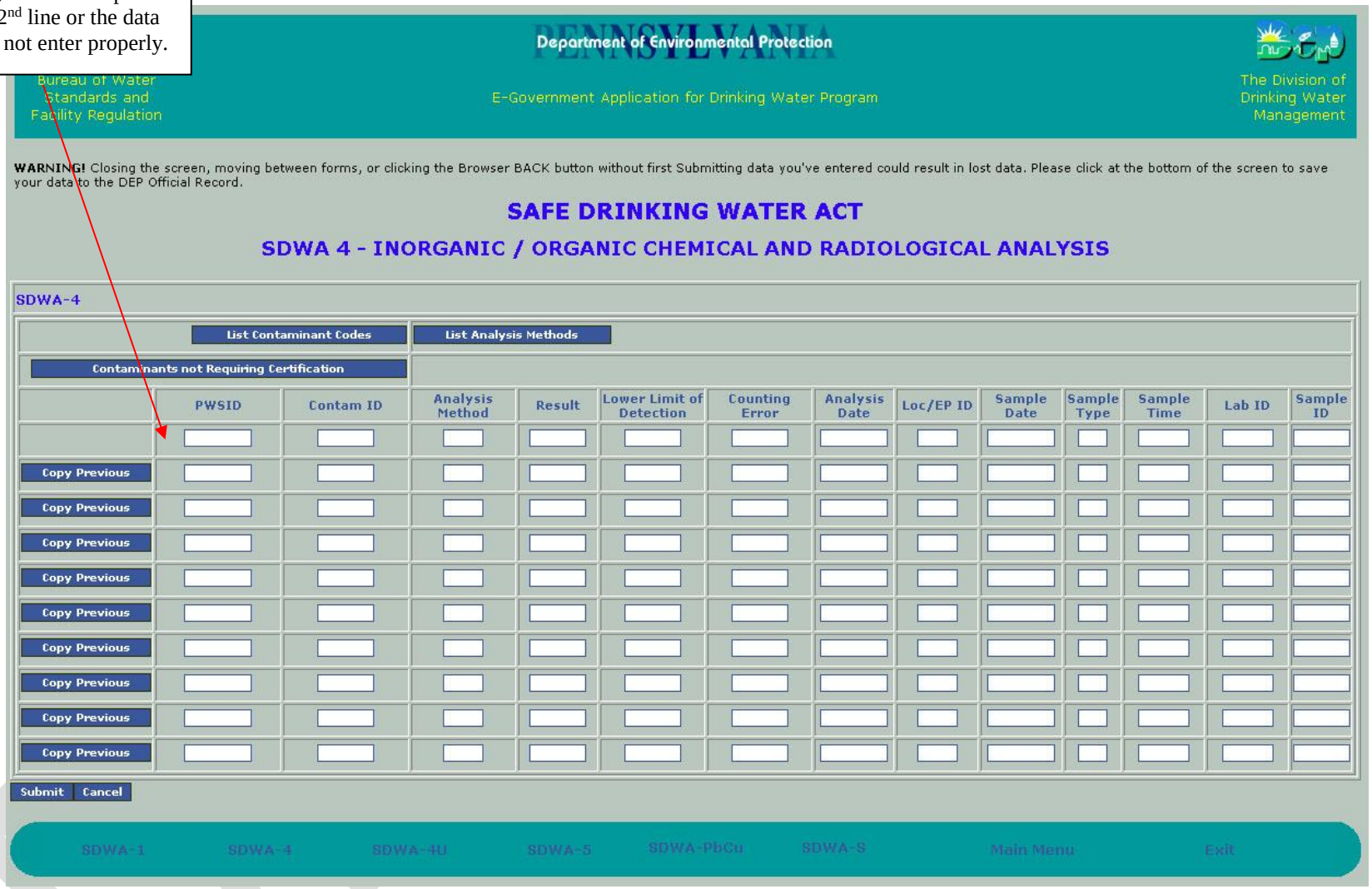
In DEP Greenport, enter *DWELR* and go to the Main Menu:




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 / Residual Disinfectant / Turbidity / DBP Analysis
SDWA-4 Chemical / Radiological Data
SDWA-4U Unregulated Inorganic / Organic Data
SDWA-5 Monthly Filter Plant Performance Data
SDWA-S Summarized Analysis Data
Cryptosporidium Oocysts Data
Add New Records
Upload File
View and Edit Records
Error Report
Search Records
Inbox
Main Menu
Exit

SAFE DRINKING WATER ACT
SDWA-4 Form

Start entries on the 1st line; do NOT skip to the 2nd line or the data will not enter properly.



SDWA-4 Form Instructions for Electronic Reporting of WQP Data

DATA FIELD	DESCRIPTION
PWSID	Enter the 7-digit public water system ID number to which these results apply. Failure to enter the PWS ID will result in the water supplier not receiving credit for conducting the monitoring.
PWS NAME	The system automatically enters the PWS name.
CONTAMINANT ID	Enter the 4-digit contaminant ID code for the parameter being reported. Acceptable contaminant codes are shown in Section 5.
ANALYSIS METHOD	Enter the DEP 3-digit code of the approved analysis method used to analyze the samples. Acceptable analysis method codes are shown in Section 5.
ANALYSIS RESULT	Enter the result of each sample analyzed. Do not round. The decimal point must be entered directly in the result field. Report results in the appropriate units as shown in Section 5. If any result is less than its respective method detection limit (MDL), report the result as zero (0).
LOWER LIMIT OF DETECTION (LLD)	Leave blank - not applicable. LLD is reported for radiological analysis only.
COUNTING ERROR (CE)	Leave blank - not applicable. CE is reported for radiological analysis only.
ANALYSIS DATE	Enter the date (MMDDYY) on which the analysis was performed. The analysis date should be the same as the sample date. All WQPs should be analyzed immediately (within 15 minutes) of the sample being collected.
LOCATION/ENTRY POINT ID	Enter the 3-digit Entry Point or Distribution System ID number assigned to the sampling point by the local DEP or CHD office. Entry Point ID numbers always begin with "1" (e.g., 100, 101, etc.). For distribution system (D) samples, if sample is collected from an existing sampling location use that locations existing 3-digit ID code, if collected from a new sampling location use a unique code between 700-999. If a raw water sample is collected use the existing Source ID number for that source. Source ID numbers always begin with "0" (e.g., 001,002, etc.).
SAMPLE DATE	Enter the date (MMDDYY) on which the sample was collected.

SDWA-4 Form Instructions for Electronic Reporting of WQP Data (cont.)

DATA FIELD	EXPLANATION
SAMPLE TYPE	Enter the appropriate letter code which corresponds to the type of sample collected as follows: E = Entry Point: Routine samples taken at an Entry Point to the distribution system. D = Distribution System: Routine samples taken in the distribution system. R = Raw (Source) Water: A supplier may wish to collect and have analyzed, samples of raw water to meet his own particular need, such as new source sampling. Such samples will not be credited toward routine monitoring requirements. S = Special: A supplier may wish to collect and have analyzed special samples to meet his 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 asked to take delinquent samples after a monitoring period has ended. Such samples must be coded "S" to distinguish them from other routine "E" sampling which may be occurring during the same time. NOTE: FAILURE TO REPORT "E" SAMPLES AND "D" SAMPLES WITH THE CORRECT CODES MAY RESULT IN THE WATER SUPPLIER RECEIVING A VIOLATION FOR FAILURE TO CONDUCT THE REQUIRED MONITORING.
SAMPLE TIME	Enter the time the sample was collected. All times must be in Military Time (e.g., enter 1:30 pm as 1330).
LAB ID	EPA-approved/accepted methods must be used to analyze WQP samples. WQP samples may be analyzed by a certified operator using approved methods. Laboratories are not required to be accredited to test for pH, alkalinity, conductivity, temperature, calcium, orthophosphate or silica. Enter your water system's 5-digit PA Registered Environmental Laboratory Identification Number in this field. However, if the WQP samples are measured by an accredited lab, enter the 5-digit PA Accreditation Identification Code Number assigned to the laboratory.
SAMPLE ID	If the analysis was conducted by a 3rd party commercial, accredited laboratory, enter the unique laboratory sample identification number/code here.

SECTION 5: DATA CODES FOR REPORTING RESULTS

EPA-approved/accepted methods must be used to analyze WQP samples. Laboratories are not required to be certified to test for pH, temperature, calcium, orthophosphate, silica, alkalinity or conductivity.

Table: WQP Codes and Methods

WQP NAME	WQP ID	EPA METHOD DESCRIPTION	EPA METHOD CODE	DEP METHOD CODE	UNITS
pH	1925	Electrometric	EPA 150.3	135	N/A
			SM 4500-H^+-B		
			ASTM D1293-95, 99		
Alkalinity[7]	1927	Titrimetric	SM 2320B	584	mg/L
			ASTM D1067-92, 02 B		
		Electrometric Titration	I-1030-85		
Conductivity	1064	Wheatstone Bridge	SM 2510B	151	µmho/ cm
			ASTM D 1125-14 A		
Temperature	1996	Thermometric	SM 2550B	130	ºCelsius
Calcium	1016	EDTA Titrimetric	SM 3500-Ca-D	141	mg/L
			ASTM D511-09A		
		Ion Chromatography	EPA 300.0	120	
			SM 4110B		
			ASTM D 6919-09		
		Atomic Adsorption	SM 3111B	101	
			ASTM D511-09B		
		Inductively Coupled Plasma	EPA 200.7	169	
			SM 3120B		
		AVICP-AES	Inductively Coupled Plasma AVICP-AES	171	
Orthophosphate, unfiltered, no digestion or hydrolysis[7]	1044	Colorimetric, Ascorbic Acid, Single Reagent	SM-4500-P-E	157	mg/L
		Colorimetric, Ascorbic Acid Method	Thermo Fisher Discrete Analyzer	166	
			SM 4500-P-F		
		Ion Chromatography	EPA 300.0	120	
			SM 4110B[2]		
			ASTM D4327-11		
		Capillary Ion Electrophoresis	ASTM D 6508-15	198	
Silica[1]	1049	Colorimetric	ASTM D 859-05-10	150	mg/L
		Molybdosilicate	SM 4500-Si-C 20th[2]	159	

Table: WQP Codes and Methods					
WQP NAME	**WQP ID**	**EPA METHOD DESCRIPTION**	**EPA METHOD CODE**	**DEP METHOD CODE**	**UNITS**
			SM 4500-Si-D 18th & 19th		
		Heteropoly Blue	SM 4500-Si-D 21st & 22nd	143	
			SM 4500-Si E 18th &19th		
		Automated method for Molybdate-reactive silica	SM 4500-Si-F 18th &19th	161	
			SM-4500-Si-E SM 20th		
		ICP/AES	EPA Method 200.7	169	
			SM 3120B		
		Inductively Coupled Plasma AVICP-AES	EPA 200.5	171	

Notes:

[1]Dosage readings are NOT reported through DWELR; dosage information for alkalinity and phosphate/silica inhibitor chemical addition should be reported to the local DEP office as part of the Monthly Operational Report. See www.elibrary.dep.state.pa.us/dsweb/Homepage; enter "DEP Office" in the search window for DEP Office addresses and phone numbers.

[2]Standard Methods 21st and 22nd Editions

[3]Standard Methods 18th and 19th Editions

SECTION 6: INSTRUCTIONS FOR SDWA CORRECTION FORMS

Data are entered electronically into DWELR via SDWA forms. Refer to Section 3: Electronic Assistance Tools in this manual for more information. Reporting instructions are available on-line at http://www.elibrary.dep.state.pa.us/dsweb/HomePage. Click on the "Forms" folder and search for "SDWA corrections".

Note: The SDWA correction 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 the SDWA Correction form is shown in Appendix III. To download the form, click on the link in the DEP e-library at www.elibrary.dep.state.pa.us/dsweb/HomePage. Search for "SDWA-4 Correction". Enter all the correct information as it should have been submitted. This information is required to identify the record. In the 'Submitted' sections, only the incorrect information should be entered.

2) A copy of a DWELR printed report of the original submission may also be used for corrections. If using a DWELR printout, strike out the incorrect information and write the correct information on the report; initial and date the correction.

   Note: Do not strike out 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, which can be handwritten on the form, also must be included:

   - The reason for the correction
   - The name of the laboratory, the authorizing personnel and the date of the corrected submission.

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	UPS or FED Ex
PA DEP SDWA MONITORING DATA 10TH FLOOR RCSOB PO BOX 8467 HARRISBURG PA 17105-8467	PA DEP SDWA MONITORING DATA 10TH FLOOR RCSOB 400 MARKET STREET HARRISBURG PA 17101

Corrections may be submitted by fax if authorized 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 7: WQP MONITORING REQUIREMENTS

All large systems must routinely monitor for WQPs regardless of whether a lead or copper action level is exceeded. Any small/medium system that exceeds an action level must monitor for WQPs during the same 6-month period in which the action level exceedance occurs.

Systems must measure WQPs at two separate locations:

- Entry points to the distribution system.
- Representative taps throughout the distribution system.

WQP Entry Point Samples:

WQP samples must be collected from each **entry point** where OCCT is installed as follows:

WQP Entry Point Sets Include:	
During Initial Monitoring-	**For Monitoring After OCCT Installed-**
pH Alkalinity Conductivity Temperature Calcium Orthophosphate, when an inhibitor is used Silica, when an inhibitor is used	pH When alkalinity is adjusted as part of OCCT, a reading of the dosage rate of the chemical used to adjust the alkalinity and the alkalinity concentration. When an inhibitor is used as part of OCCT, a reading of the dosage rate of the inhibitor used and the concentration of orthophosphate or silica, whichever is applicable.

WQP Entry Point Monitoring			
System Type	**Initial Monitoring**	**Follow-up Monitoring**	**Performance Monitoring**
Large	**Two (2) sets** of samples, collected on different days, during each of two 6-month periods.	**One (1) set** of samples, collected every two weeks during each of two 6-month periods.	**One (1) set** of samples, collected every two weeks, indefinitely.
Small/Medium	**Two (2) sets** of samples, collected on different days, during the same period that an action level is exceeded.	Once OCCT is installed, **one (1) set** of samples, collected every two weeks, during the same period that an action level is exceeded, or as required by DEP (i.e. as per a permit condition).	

If a small/medium system exceeds an action level during reduced monitoring and OCCT treatment has not been installed, it must conduct WQP monitoring at the same frequency and for the same parameters as initial monitoring.

WQP entry point monitoring is not eligible for reduced monitoring.

WQP Distribution System Samples:

A system must collect **two sets** of WQP **distribution samples** from the following number of sample sites. The sample sites should be representative of water quality throughout the distribution system taking into account the different sources of water, the different treatment methods and seasonal variability. The sets of samples should be collected from the same sites on different days.

WQP Distribution Sample Sets Include:	
During Initial Monitoring-	**For Monitoring After OCCT Installed-**
pH Alkalinity Conductivity Calcium Temperature Orthophosphate, when an inhibitor is used Silica, when an inhibitor is used	pH Alkalinity Calcium, when calcium carbonate stabilization is used Orthophosphate, when an inhibitor is used Silica, when an inhibitor is used

Number of WQP Distribution Sampling Sites		
System Size (Population)	**Initial/Routine Monitoring**	**Reduced Monitoring**
> 100,000	25	10
50,001 – 100,000	10	7
10,001 – 50,000	10	
3,301 – 10,000	3	
501 – 3,300	2	
101 – 500	1	
≤ 100	1	

***All* large systems** that maintain their WQPS within the approved range of values reflecting OCCT during each of two consecutive 6-month monitoring periods may collect distribution samples from the **reduced number of sites** during subsequent 6-month monitoring periods.

***All* large systems** that maintain their WQPS within the approved range of values reflecting OCCT during 3 consecutive years of monitoring at the reduced number of sites may reduce the frequency with which it collects sets of WQP distribution samples from every six months to **annually**. A system

conducting annual sampling should collect these sets of samples evenly throughout the year to reflect seasonal variability.

A **large system** may reduce the frequency with which it collects sets of WQP distribution samples to **every 3 years *IF***, during 2 consecutive monitoring periods:

- The 90th percentile lead level is ≤ 0.005 mg/L; AND
- The 90th percentile copper level is ≤ 0.65 mg/L; AND
- The system maintains the range of values for the WQPs.

A large system must return to 6-month monitoring periods at the original number of sampling sites if the system fails to operate within the range of values for the WQPs on more than any 9 days in any 6-month monitoring period.

However, a large system may resume annual monitoring and triennial monitoring as soon as they qualify for each of these reduced monitoring levels.

A **small/medium system** must conduct WQP monitoring whenever an action level is exceeded, or as required by DEP (i.e., as per a permit condition).

If a small/medium system exceeds an action level during reduced monitoring and OCCT treatment has not been installed, it must conduct WQP monitoring at the same frequency and for the same parameters as the initial monitoring.

Note*:* Although DEP calculates the 90th percentile values for compliance purposes, public water suppliers are still responsible for tracking and evaluating lead and copper tap monitoring results to determine **whether an AL exceedance is likely** and completing any additional actions-*including WQP monitoring*-that are required.

SECTION 8: WQP COMPLIANCE DETERMINATIONS

Compliance determinations are always based on a 6-month period, regardless of the system's monitoring schedule (i.e., daily, biweekly, semi-annually, triennially).

Systems cannot be outside the WQP ranges or below the WQP minimum for more than a total of 9 days at a specific sampling point or combination of sampling points, or for a specific WQP or combination of WQPs during a 6-month period. The days do not have to be consecutive.

A **daily value** is calculated for each sampling location and for each parameter. The procedure for determining the daily value is based on the sampling frequency for that WQP and sampling point.

Note: A **daily value** is calculated even if no monitoring occurred at a sampling location during the 6-month period being evaluated. This occurs when a system is on an annual or a triennial WQP monitoring schedule. Averaging is only used to calculate the daily value when monitoring occurs more frequently than daily for a specific WQP at a sampling location.

Daily Value Calculation Based on Monitoring Frequency	
If a system is monitoring for a specific WQP at a sampling site:	**Then the daily value is:**
More frequently than Daily	Calculated by averaging all the results measured at the sampling location for the WQP during the day. If both continuous results and grab samples are collected on the same day, both must be included in the calculation of the daily value.
Daily	Results of each daily sample for that WQP at that location.
Biweekly	Results of each sample collected during the 2-week period for that WQP at that location.
Semi-annually	Results of each sample collected during the 6-month period for that WQP at that location.
Annually or Triennially	The most recent measurement(s) taken, even if the measurement(s) was (were) collected during a previous monitoring period.

An **excursion** is any "daily value" for a WQP that is below the minimum value or outside the range of WQPs set by DEP. The duration of an excursion is the number of days that elapse starting with the day the excursion first occurs, until the day the daily value is within the WQP range or above the WQP minimum. These dates are based on the date the system collected the sample.

To determine the duration of the excursion:

1. Count the first day that the sample is outside the WQP range or below the minimum.

2. Stop counting days when a sample result from the same location and for the same parameter meets the WQP range, or is at or above the minimum value. Do not include the day the sample meets the WQP range, or is at or above the minimum value in the calculation.

3. Repeat this procedure any time a measurement does not meet the WQP specifications during the 6-month period being evaluated.

To determine if a system is in compliance, count the total number of days that a system had an excursion for each sampling location and for each WQP. Multiple excursions that occur on the same day are only counted once. To remain in compliance, a system cannot have excursions on more than 9 different days at a specific sampling point or combination of sampling points, or for a specific WQP or combination of WQPs during a 6-month period.

SECTION 9: CASE STUDY EXAMPLE

HOMETOWN WATER COMPANY

A public water system (PWS) named the Hometown Water Company (PWS ID 1234567) serves a population of 3,000 people. The system, which has no corrosion control treatment, has been monitoring for lead and copper for years without an exceedance until recently. Because the water company had been granted reduced triennial lead & copper tap water monitoring, the PWS had been using 10 monitoring sites instead of 20 sites. Under the Lead and Copper Rule, Hometown Water Company is considered a small size PWS that must take lead and copper samples between June 1 and September 30 for the monitoring period 01/01/16 to 12/31/16.

In this scenario, in the summer 2016, the water test results exceeded the action levels (ALs) of 0.015 milligrams lead per liter (mg/L) and of 1.3 mg/L copper. The calculated 90th percentile values, using the sample results, were 0.030 mg/L for lead and 1.8 mg/L for copper. Due to the exceedances, the PWS must conduct Water Quality Parameter (WQP) monitoring. Per 25 Pa. Code § 1103(a)(2), Hometown Water Company must collect WQP samples from two locations in the distribution system on two different days and analyze them using DEP-approved/accepted methods. The PWS must also collect a sample from each entry point, on different days.

An accredited laboratory analyzed 10 samples each for lead and copper using PA DEP-approved methods, and reported individual sample results, in this scenario. The required WQP samples for temperature, pH, and conductivity (contaminant IDs 1996, 1925, and 1064) were analyzed by a person meeting the requirements in 25 Pa. Code § 109.304 and reported by the water system under their own laboratory ID. Calcium and Alkalinity (contaminant IDs 1016 and 1927) were sent to the accredited laboratory for analysis and reporting. PWSs that exceed an AL are only required to monitor for orthophosphates or silica when an inhibitor containing phosphates or silica (contaminant IDs 1044 and 1049) is used.

Example SDWA-1 and SDWA-4 forms: The lead and copper, and WQP results were entered on the correct Drinking Water Electronic Laboratory Reporting (DWELR) forms as shown on the following pages. The SDWA-1 form is used for lead and copper results and the SDWA-4 form is used for WQP results. All lead and copper, and WQP results should be reported before deadlines; sample results entered to DWELR late may generate violations. The electronic system will not automatically calculate the 90th percentiles on results entered late to DWELR.

SDWA-1 Lead and Copper Results:

EDIT RECORDS

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
Sort			Sort Entry Point Chlorine				Sort			Sort	
1234567	1030	170	0.014	092516	045		091416	D	0600	30223	PB1
1234567	1030	170	0.012	080916	022		071616	D	0615	30223	PB2
1234567	1030	170	0.012	070216	003		060716	D	0600	30223	PB3
1234567	1030	170	0.012	070216	008		061416	D	0545	30223	PB4
1234567	1030	170	0.011	070216	006		061416	D	0700	30223	PB5
1234567	1030	170	0.011	092516	036		081316	D	1720	30223	PB6
1234567	1030	170	0.010	080916	027		072416	D	0630	30223	PB7
1234567	1030	170	0.010	092516	034		081616	D	0610	30223	PB8
1234567	1030	170	0.030	080916	019		071116	D	0530	30223	PB9
1234567	1030	170	0.030	070216	011		060216	D	0515	30223	PB10
1234567	1022	170	1.0	092516	045		091416	D	0600	30223	CU1
1234567	1022	170	0.9	080916	022		071616	D	0615	30223	CU2
1234567	1022	170	0.8	070216	003		060716	D	0600	30223	CU3
1234567	1022	170	0.8	070216	008		061416	D	0545	30223	CU4
1234567	1022	170	0.7	070216	006		061416	D	0700	30223	CU5
1234567	1022	170	0.7	092516	036		081316	D	1720	30223	CU6
1234567	1022	170	0.6	080916	027		072416	D	0630	30223	CU7
1234567	1022	170	0.6	092516	034		081616	D	0610	30223	CU8
1234567	1022	170	1.9	080916	019		071116	D	0530	30223	CU9
1234567	1022	170	1.8	070216	011		060216	D	0515	30223	CU10

Submit Cancel

SDWA-4 Form; 1925 (pH) and 1996 (Temperature) and 1064 (Conductivity):

VIEW and EDIT RECORDS

Click here for a Printer Friendly Version

View a Monitoring Calendar

SDWA-4

Current Lab Certifications | Contaminants not Requiring Certification

PWSID	Contam ID	Analysis Method	Result	Lower Limit of Detection	Counting Error	Analysis Date	Loc/EP ID	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID
Sort											Sort	
1234567	1925	135	7.39			111516	101	111516	E	1141	01234	WQP1925E1
1234567	1925	135	6.91			102216	101	102216	E	1151	01234	WQP1925E2
1234567	1925	135	6.88			111516	701	111516	D	1121	01234	WQP1925D1
1234567	1925	135	6.79			102216	701	102216	D	1211	01234	WQP1925D2
1234567	1996	130	15.1			111516	101	111516	E	1140	01234	WQP1996E1
1234567	1996	130	19.5			102216	101	102216	E	1150	01234	WQP1996E2
1234567	1996	130	15.1			111516	701	111516	D	1120	01234	WQP1996D1
1234567	1996	130	15.4			102216	701	102216	D	1210	01234	WQP1996D2
1234567	1925	135	6.88			102216	702	102216	D	1135	01234	WQP1925D11
1234567	1925	135	6.86			111516	702	111516	D	1230	01234	WQP1925D12
1234567	1996	130	18.0			103016	702	102216	D	1135	01234	WQP1996D11
1234567	1996	130	15.0			112316	702	111516	D	1230	01234	WQP1996D12
1234567	1064	127	299.0			111516	101	111516	E	1149	01234	WQP1064E1
1234567	1064	127	300.0			102216	101	102216	E	1157	01234	WQP1064E2
1234567	1064	127	301.0			111516	702	111516	D	1129	01234	WQP1064D1
1234567	1064	127	299.0			111516	701	111516	D	1129	01234	WQP1064D2
1234567	1064	127	301.0			102216	702	102216	D	1214	01234	WQP1064D11
1234567	1064	127	291.0			102216	701	102216	D	1214	01234	WQP1064D12

SDWA-4 Form; 1016 (Calcium) and 1927 (Alkalinity):

VIEW and EDIT RECORDS

Click here for a Printer Friendly Version

View a Monitoring Calendar

SDWA-4

Current Lab Certifications | Contaminants not Requiring Certification

	PWSID	Contam ID	Analysis Method	Result	Lower Limit of Detection	Counting Error	Analysis Date	Loc/EP ID	Sample Date	Sample Type	Sample Time	Lab ID	Sample ID
	Sort											Sort	
☐	1234567	1016	169	111.0			112316	101	111516	E	1149	30223	WQP1016E1
☐	1234567	1016	169	94.3			103016	101	102216	E	1157	30223	WQP1016E2
☐	1234567	1016	169	103.0			112316	701	111516	D	1150	30223	WQP1016D1
☐	1234567	1016	169	94.6			103016	701	102216	D	1200	30223	WQP1016D2
☐	1234567	1927	584	157.0			112416	101	111516	E	1149	30223	WQP1927E1
☐	1234567	1927	584	159.0			103016	101	102216	E	1157	30223	WQP1927E2
☐	1234567	1927	584	153.0			112416	701	111516	D	1150	30223	WQP1927D1
☐	1234567	1927	584	158.0			103016	701	102216	D	1200	30223	WQP1927D2
☐	1234567	1016	169	94.3			103016	702	102216	D	1216	30223	WQP1016D11
☐	1234567	1016	169	94.0			112316	702	111516	D	1131	30223	WQP1016D12
☐	1234567	1927	584	157.0			103016	702	102216	D	1216	30223	WQP1927D11
☐	1234567	1927	584	156.0			112316	702	111516	D	1131	30223	WQP1927D12

APPENDIX: SDWA-4 CORRECTION FORM

3900-FM-BSDW0144 11/2013

pennsylvania DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

INORGANIC/ORGANIC CHEMICAL AND RADIOLOGICAL ANALYSIS

SDWA-4 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:
Address:
Phone:
PWS ID:

Reported PWS Name:
Address:
Phone:
PWS ID:

LAB. NAME:
APPROVED BY:
PHONE:
DATE:

SAMPLE	LOCATION / ENTRY POINT ID	LOCATION / ENTRY POINT NAME	DATE MMDDYY	SAMPLE TYPE	SAMPLE TIME	LAB ID	LAB SAMPLE ID
CORRECT DATA							
SUBMITTED DATA							

ANALYSIS	CONTAM ID	CONTAMINANT NAME	METHOD	RESULT (Incl. decimal)	LLD	CE	DATE MMDDYY
CORRECT DATA							
SUBMITTED DATA							
CORRECT DATA							
SUBMITTED DATA							
CORRECT DATA							
SUBMITTED DATA							
CORRECT DATA							
SUBMITTED DATA							