Ohio Environmental Protection Agency

Public Water System
Consumer Confidence Report
Instruction and Template Guide

Ohio Environmental Protection Agency
Division of Drinking and Ground Waters

www.epa.ohio.gov/ddagw

Revised February 2021

Updated in January 2021:

1. All sample/example dates have been updated.
2. In Section 3 on page 2, it is clarified that the PWS must provide an in-house contact for consumers that wish to have more information about the Source Water Assessment Report. In Section 3 on page 2, the instructions on how the PWS can access the Source Water Assessment Report have been updated to say 'contact Ohio EPA' because the Reports are no longer available on the Ohio EPA website.
3. On Page 5, the reference and link to the HAB Response Strategy document has been updated to the most recent version.
4. In Section 8, an explanation of how to report entry point data for multiple entry points was added.
5. In Section 8, In figure 2, page 6, and in the sample table on page 57, the MCLGs for TTHM and HAA5 were changed from "zero" to N/A.
6. In Section 8, the example table entry for strontium was removed.
7. In Section 8, the information on how to report the results of sampling under the UCMR program has been retained, but renamed Example 9, to make it easier to find (now on page 19).
8. In Section 8, page 20, instructions on how to include Ohio EPA PFAS sampling participation and results, were added as Example 10.
9. In Section 16 on page 23: Significant Deficiencies was added to the title of the section, and information clarifying that all significant deficiencies noted in the CCR calendar year are to be included, with the status of compliance with the significant deficiency explained. Past significant deficiencies that remain unresolved will continue to be reported annually.
10. In Section 21: Definitions, A definition for PFAS has been added on page 30.
11. In Appendix D, an introductory explanation, "How to read the Water Quality Data Table" was added before the table.

Contents

List of Figures

List of Tables

I. Introduction

This Consumer Confidence Report (CCR) Instruction Guide was developed to assist public water system officials who are preparing drinking water quality CCRs required by Ohio Administrative Code (OAC) Chapter 3745-96.

This guide contains instructions on the use of the Ohio EPA CCR Template and is available in both a paper version and in an electronic format. The electronic version is formatted such that any windows driven word processor can read it and it allows for easy editing. It should be noted that use of the Template will not guarantee an acceptable CCR as it requires a significant amount of input from the user. Each Section of the Template is numbered in reference to the same Section numbers in this guide. Mandatory language that is included in the Template is not always repeated in this document, so both documents should be consulted. After completing your CCR, the Section numbers should be deleted from the final version before sending it to your customers.

II. CCR Instructions

Section 1: Report Title

Supply a title for your CCR. Please be sure that the name of the water system appears near the top of the report. A suggested title of 'Drinking Water Consumer Confidence Report' has been used in the template but it may be changed. Incorporate the year that the report is for in the title or near the top of the report. For example, the report that is prepared in 2021 will be for report year 2020 (i.e., data from the 2020 calendar year).

Section 2: Introduction

A general introduction has been provided in the template, but it may be modified to be more specific to your water system or you may write a completely different introduction. This part of the report should be a short explanation of what the customer is about to read. If applicable, you may wish to include in your introduction, statements such as "Your drinking water met all Ohio EPA standards".

Section 3: Source Water Information

Describe the primary type(s) of your PWS's source water (i.e., ground water, surface water, purchased or a blend), and the commonly used name(s) (if such a name exists) and locations of your water source(s). You may wish to provide a simple map of your system and its sources (see Figure 1).

Auxiliary, emergency, or back-up connections need to be identified. In addition, the amount of water received from the connection(s), the length of time that water was received, and the frequency that the connection is used must be provided. An auxiliary, emergency or back-up connection is defined as a connection not meant to be used on a continuous basis and is only used during extraordinary conditions such as drought, source failure, line breaks, fires and other periods of usually high-water demand. However, if your system has used water from a

connection with another public water system as a **primary source,** that water supplier's water quality information must be contained within your report.

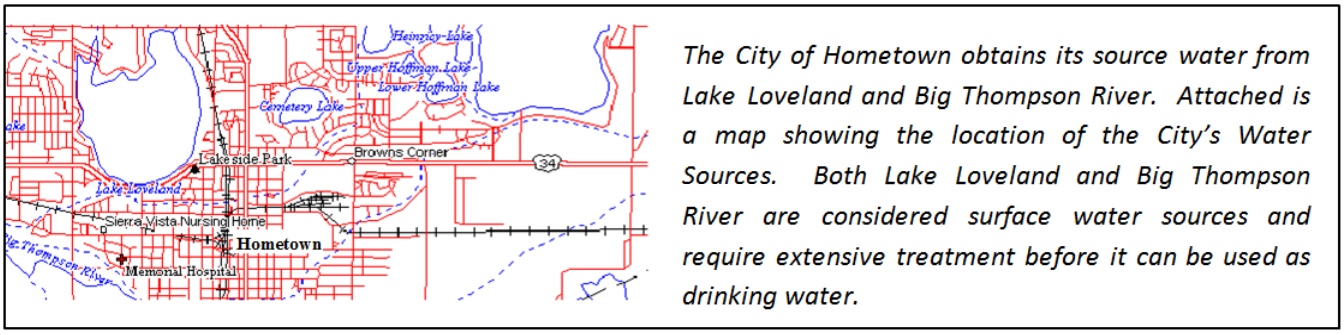

Figure 1. Source Water Example

Source Water Assessment Information and availability of the Report

Ohio EPA conducted a source water assessment of all public water system sources in the State of Ohio. You are required to notify consumers of the availability of the source water assessment, how they can obtain a copy of the report from your PWS, and include a brief summary of your source water susceptibility to contamination based on the findings of the source water assessment. Ohio EPA provided the summary as part of the source water assessment process. This summary or equivalent language must be included in each CCR, for example:

> *"The state performed an assessment of our source water in 2005. It was determined that the aquifer supplying drinking water to* ***the Any Town MHP*** *has a* ***moderate*** *susceptibility to contamination. This conclusion is based on the presence of a moderately thick protective layer of clay overlying the aquifer, no evidence to suggest that ground water has been impacted by any significant levels of chemical contaminants from human activities, and the presence of significant potential contaminant sources in the protection area. Please contact John Doe at 555-5555 if you would like more information about the assessment."*

Should you need to find your Source Water Assessment Information, contact Ohio EPA.

We encourage you to also include other information about potential sources of contamination, such as information from wellhead protection plans, sanitary surveys and government reports. This is your opportunity to educate your customers about the potential impacts that they and others may have on the quality of their water. You may wish to provide pollution prevention tips or information on local watershed cleanup activities.

Section 4 & 5: Required Health Information

These two sections shall appear as written in the template in each CCR, as required by regulation. Additional information may be included but must not detract from the required text.

Section 6: About Your Drinking Water

This paragraph provides some general information on the water quality monitoring that the water system conducted. This paragraph is *not required* but some form of introduction to the water quality monitoring results

is recommended. If using the format presented in the template, be sure to indicate only the type of monitoring that was conducted for the report year. A common mistake is to update the contaminant table but fail to update this summary paragraph for the current CCR year.

Section 7: Monitoring & Reporting Violations & Enforcement Actions

This paragraph is to describe any violations for monitoring and/or reporting. **This section should not be used to meet public notice issuance requirements; see Section 19 for information on how to properly issue public notice in your CCR.** It should also include any violations of the terms of an administrative order, bilateral compliance agreement, findings and orders or judicial order that may have occurred during the reporting year. All violations of National Primary Drinking Water Rules must be reported in the CCR for the calendar year in which the system became aware of the violation.

Types of violations that must be included are as follows:

- Federal monitoring and reporting violations
- Violations for failure to issue public notice
- Public education and consumer notice violations
- Violations of administrative orders, bilateral compliance agreements, findings and orders, or a judicial order. This includes failure to meet deadlines specified by the enforcement action.

The CCR must include the type of violation, time period of the violation, the contaminant of concern and the length of time the water system remained in violation and the steps taken to correct the violation. If no violations occurred, this paragraph may be deleted from the final report. Include separate paragraphs for different types of violations but you may combine multiple violations of the same type. As an example: If the City of Hometown had an arsenic monitoring violation during the third quarter of 2020 and one volatile organic chemical (VOC) monitoring violation for the June 1 - October 31, 2020 monitoring period, then their report would contain language describing the violations similar to the following:

Monitoring Violations

The City of Hometown Water Department was in violation for failing to collect a sample for arsenic analysis during the third quarter of 2020, and a sample for Volatile Organic Chemical (VOC) analysis during the June - October 2020 monitoring period, as required by the Ohio EPA. The Water Department returned to compliance when samples were collected for arsenic and VOCs on December 12, 2020.

Steps have been taken to ensure that all sampling will be conducted as required by enacting a more comprehensive management plan. This plan assigns responsibilities for sampling and contains contingency measures if the assigned Water Department personnel are absent."

Violations concerning failure to complete the proper lead and/or copper corrosion control study or recommendation, plan approval, or treatment installation, must be addressed in the CCR. An explanation of the steps that have been or will be taken to correct the violation(s) and to ensure future violations will not occur must be included. As an example: If the City of Hometown failed to submit a corrosion control study by the required date, then something similar to the following would appear in the report.

"The City of Hometown Water Department was in violation for failure to complete the proper lead and copper corrosion control study by July 1, 2020, as required by the Ohio EPA for a lead action level exceedance as indicated by our June - December 2019, sample results. The City of Hometown Water Department has taken the following steps to return to compliance: The firm Engineers "R" Us was hired to conduct the required corrosion control study to determine the most effective means for controlling lead levels within the water system. Their recommendations are expected by February 28, 2021. Once we receive their report, plans will be made to install effective treatment as soon as possible."

Note: In the above example the original exceedance was in 2019, but the due date for the corrosion control study was in 2020. Therefore, the violation was for 2020 and needs to be reported in the 2020 CCR.

An example of language that could be used for violation of an enforcement action:

"On *November 17, 2019 the Director of the Ohio Environmental Protection Agency issued Findings and Orders to our water system, requiring corrective measures for violations of Ohio's safe drinking water law. We have not met all the terms and requirements of the November 17, 2019 Findings and Orders. Specifically, we failed to install arsenic removal treatment by May 1, 2020. The installation was completed on 12/1/2020."*

Although the Orders were final in 2019, the deadline that was missed was in 2020, so the violation belongs in the 2020 CCR.

Section 8: Water Quality Monitoring Information-Table of Detected Contaminants

An essential part of the report is the Table of Detected Contaminants (Table). It shows the compliance level for each detected contaminant (**the level reported to Ohio EPA for compliance determination**) and the range of levels of each contaminant detected during the year. For each detected contaminant, the Table also shows the following: Maximum Contaminant Level (MCL), Maximum Contaminant Level Goal (MCLG) and the likely or known source of that contaminant (See Figure 2). The reporting units, MCLG, MCL, and likely sources of contamination for regulated contaminants are listed in Appendix A.

The Table is to include the most recent data for detected contaminants but is not to include any data older than five years. This means that the most recent result(s) might be from a year prior to the current report year (e.g., triennial monitoring). Also, do not include in the Table contaminants that are not detected. The Table of Detected Contaminants must contain **only** data for regulated contaminants; contaminants subject to an MCL, treatment technique (TT), or action level (AL), and unregulated contaminants for which Ohio EPA requires monitoring. A list of these contaminants is provided in Appendix A. A brief statement is required indicating that the data presented in the CCR are from the most recent testing done in accordance with the regulations.
Operational tests such as pH, hardness, alkalinity, iron and manganese levels, etc. are not to be included in this table. It is recommended that information obtained from operational testing be included in a separate optional section of the report as many customers are interested in this information. You may wish to include these

operational testing results immediately following the required Table of Detected Contaminants. If you wish to include operational data it is recommended that an average level and range be provided in the report as well as an explanation of the reasons for the sampling and what the results mean to the water customer.

In the CCR Template (found online at: https://epa.ohio.gov/portals/28/documents/ccr/CCR_Template.pdf), as in Figure 2, header lines have been included for each contaminant group: Bacteriological, Microcystins, Radioactive, Inorganic, Synthetic Organic, Volatile Organic Chemicals, Disinfection Byproducts, Lead & Copper and Unregulated Contaminants. Add or delete lines in the table as needed. If a contaminant was detected in 2020, include that contaminant in the Table under the appropriate contaminant group and fill in the columns with the MCLG, MCL, Level Found, Range of Detections and Sample Year. The MCL, MCLG and MRDL must be expressed as a number equal to or greater than 1.0; this may require you to convert the units of measure to CCR units. See Appendix A for a list of MCLs in the correct CCR units. If the most recent sampling period for any of these contaminants is within 5 years of the current calendar year, and they were detected, the information must be included in the current CCR. For example, if the last sampling for VOCs was 2018 and the 2020 CCR is being prepared, any detected contaminants from the 2018 sampling must be included in the current report.

In the "violation" column, indicate if the Level Found constitutes a violation of an MCL or TT or an action level exceedance, and indicate the Typical Sources of Contaminants as appropriate. The units used to report the level found, the MCLG and the MCL and the Range of Detections must all be the same as in Appendix A. Appendix A also contains the Typical Sources of Contaminants for regulated contaminants to be used in the Table.

If you are scheduled for 6-month monitoring for lead and copper, you must report information for both monitoring periods in the CCR year. Therefore, you will have two entries for lead and two entries for copper in your table of detected contaminants.
Unregulated Contaminants, also listed in Appendix A, for which sampling was required and detected must appear in the CCR and can be displayed as in the example below, with the average and range of concentrations found.

If non- regulated cyanotoxins other than microcystins were detected in finished water, it is recommended that the results are included in the unregulated section of the table along with the threshold levels specified in the 2020 Public Water System Harmful Algal Bloom Response Strategy document at http://epa.ohio.gov/Portals/28/documents/habs/2020_PWS_HAB_Response_Strategy.pdf.

For systems with multiple entry points: The table can have separate columns for each treatment plant or entry point, if desired. The range and level found for the detected contaminant should be reported at each plant . If a system combines the data from more than one entry point into one entry for a particular contaminant, the range will be the lowest and highest values among all test results at all entry points. The 'level found' will be the highest value of all samples, not the average across entry points.

Figure 2. Example of a Table of Detected Contaminants (Level Found and Range are examples)

Contaminants (Units)	MCLG	MCL	Level Found	Range of Detections	Violation	Year Sampled	Typical Source of Contaminants
Microbiological Contaminants							
Turbidity (NTU)	NA	TT	4.97	0.2 - 4.97	NO	2020	Soil runoff.
Turbidity (% meeting standard)	NA	TT	92%	92%-100%	YES	2020	
Inorganic Contaminants							
Barium (ppm)	2	2	0.56	NA	NO	2018	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Nitrate (ppm)	10	10	0.16	<0.05 - 0.16	NO	2020	Runoff from fertilizer use; Erosion of natural deposits.
Residual Disinfectants							
Total Chlorine (ppm)	MRDLG=4	MRDL=4	1.14	0.5-2.18	NO	2020	Water additive used to control microbes.
Volatile Organic Chemicals							
Xylenes (ppm)	10	10	0.2	NA	NO	2019	Discharge from petroleum factories; Discharge from chemical factories

Contaminants (Units)	MCLG	MCL	Level Found	Range of Detections	Violation	Year Sampled	Typical Source of Contaminants
Disinfection Byproducts							
Total Trihalomethanes TTHMs (ppb)	N/A	80	74.3	57 – 112	NO	2020	By-product of drinking water chlorination.
Haloacetic Acids HAA5 (ppb)	N/A	60	16.3	14.1 – 20	NO	2020	By-product of drinking water chlorination.

Lead and Copper						
Contaminants (Units)	**Action Level (AL)**	**Individual Results over the AL**	**90% of test levels were less than**	**Violation**	**Year Sampled**	**Typical Source of Contaminants**
Lead (ppb)	15	16 ppb, 17 ppb	12 ppb	No	2020	Corrosion of household plumbing systems.
	2 out of 20 samples were found to have lead levels in excess of the lead action level of 15 ppb.					
Copper (ppm)	1.3	N/A	<0.01	No	2020	Corrosion of household plumbing systems.

	[SA1]Zero of 20 samples were found to have lead levels in excess of the copper action level of 1.3 ppm.

To assist in calculating the values to be reported in the Level Found column and the Range column in the Table of Detected Contaminants, Table 1 is located below. The values reported in these columns are determined depending on the contaminant and whether a MCL, TT, or AL exceedance occurred.

Note: This Table is for Regulated Contaminants only (as listed in Appendix A). Unregulated Contaminants and non-regulated contaminants are discussed later in this section.

Table 1. Compliance Determinations for Regulated Contaminants

Contaminant(s)	Calculation Method	Example
E. coli (RTCR)	Report the total number of positive samples for the entire year.	System has a positive E. coli in Jan. and again in Aug. System reports: Level found: 2
Fecal Coliform/ E. coli (Raw source samples) GWR	Report the total number of positive samples collected in the reporting year.	System collects raw samples from three wells on two separate occasions in 2020. 4 of the 6 samples were positive. System reports: Level found: 4
Microcystins	Report the range of levels detected and highest single measurement	Use detections from finished water entry points and distribution sampling points.
Total Organic Carbon (TOC)	Report lowest quarterly annual average of monthly compliance ratios. Refer to TOC Calculated Values.	See Example 1. Range: highest monthly calculated value and lowest monthly calculated value.
Turbidity	Report the highest single value AND the lowest monthly percentage of samples meeting the turbidity limits. The range is the lowest to the highest single sample.	The highest single turbidity level was 4.97 and lowest monthly percentage of samples meeting turbidity limits was 92%. Report: Level Found: 4.97 & 92%. Range: 0.2-4.97 See Figure 2.
Lead	Report the 90th % sample result, total number of samples collected, AND the number of samples found to have lead levels greater than the action level. Report each individual result that was at or above the threshold level of 15 ppb.	See Example 2.
Copper	Report the 90th % sample result, total number of samples collected, AND the number of samples found to have copper levels greater than the action level. A range is not required.	See Example 2.
Nitrate (NO_3)/ Nitrite (NO_2)	If only one sample was collected for the year, report that sample result.	Water system collects one NO_3 sample with the result of 1.2 mg/L. Report Level Found: 1.2; Range: NA.

Contaminant(s)	Calculation Method	Example
	If more than one sample was collected such as is required for surface water systems and no MCL exceedance occurred, report the highest sample result.	Water system collects 5 samples with the following results: 1.1, 1.3, 0.8, 0.5 & 0.9 mg/L. Report: Level Found: 1.3; Range: 0.5 - 1.3
	If an MCL exceedance occurred in a sample and a check sample was collected, report the average of those two samples. If more than one MCL exceedance occurred and check samples were collected each time, report the highest of the averages.	Water system collects 5 NO_3 samples with the following results: 8.1, 9.3, 9.8, 11.5 & a check sample of 9.5 mg/L. This system would report: Level Found: 10.5; Range: 8.1 - 11.5
Antimony; Asbestos; Barium; Beryllium; Cadmium; Chromium; Cyanide; Mercury; Selenium; Thallium	If only one sample was collected for the year, report that sample result.	Water system collects one Barium sample with the result of 0.6 mg/L. Report: Level Found: 0.6; Range: NA.
	If sampling annually or once every three years and an MCL exceedance occurred, report the average results of the original sample and the required repeat sample.	Water system collects annual Barium sample with result of 3.6 mg/L with a check sample of 1.8 mg/L. Report: Level Found: 2.7; Range: 1.8 - 3.6
	If sampling more than annually, report the highest running annual average.	See Example 3.
Fluoride	If only 1 sample was collected for the year report that sample result. If a resample was collected, report the average of the two samples.	Water system collects one Fluoride sample with the result of 0.2 mg/L. Report: Level Found: 0.2; Range: NA.
	If fluoride levels are adjusted, report the highest entry point monthly running annual average for the year and the range of entry point results from daily samples.	Obtain this information from the Fluoride Monthly Operational Report form 5002
Arsenic	If only one sample was collected for the year, report that sample result.	Water system collects one sample with the result of 4 mg/L. Report: Level Found: 4 mg/L; Range: NA.
	If more than one sample was collected and no MCL violation occurred, report the highest sample result.	Water system collects five samples with the following results: 3, 4, 3, 7 & 6 µg/L. This system would report: Level Found: 7 ug/L; Range: 3-7 ug/L
	If sampling at a frequency greater than annual, report the highest quarterly running annual average.	Most recent 7 quarterly samples of 11, 9, 10, 8, 15, 12, 9 µg/L. System reports: Level Found:11ug/L Range: 8-15 ug/L
Bromate	Report the highest running annual average of monthly samples.	See Example 3.

Contaminant(s)	Calculation Method	Example
Chlorite	Report the highest average of the sample results within each three sample sets.	Report the highest sample set average under Level Found and the Range of the individual samples.
Total Chlorine	Report the highest quarterly running annual average of the chlorine residuals measured during the Total Coliform sampling procedure. Obtain this information from your monthly operating report, under chlorine residual (total).	Report the highest quarterly running annual average under Level Found and the Range of the highest and lowest monthly average levels from 2020. See example 8.
Chlorine Dioxide	Report the highest entry point result and the range of entry point results from daily samples.	Obtain this information from the MORs. Also report the range of entry point samples.
VOC's/SOC's	If only one sample was collected for the year, report that sample result.	Water system collects one Toluene sample with the result of 0.6 mg/L. Report: Level Found: 0.6; Range: NA.
	If sampling annually and an MCL violation occurred, report the average results of the original sample and the required repeat sample.	Water system collects one Toluene sample with the result of 1.8 mg/L with a check sample result of 0.9 mg/L. Report: Level Found: 1.35; Range: 0. 9 to 1.8
	If sampling more than annually report the highest running annual average.	See Example 3.
Haloacetic Acids (HAA5)	If only one sample was collected for the year, report that sample result.	System collects 1 HAA5 sample result = 24 ug/L. Report: 24 ppb; Range: NA
	Add the results of the five HAAs for each set and report the highest locational running annual average of the HAA5 sums.	See Table 3 and Examples 4 and 5.
Total Trihalomethanes (TTHMs)	If only one sample was collected for the year, report that sample result.	System collects one TTHM sample result 65 ug/L. Level found: 65 ppb; Range: NA
Total Trihalomethanes (TTHMs)	Add the results of the four THMs for each set and report the highest locational running annual average of the TTHM sums.	System collects one TTHM sample result 65 ug/L. Level found: 65 ppb; Range: NA
Radiological Contaminants (Alpha & Beta)	If only one sample was collected for the year, report that sample result.	Water system collects one Gross Alpha sample with the result of 3 pCi/L. Report: Level Found: 3; Range: NA.
Radiological Contaminants (Alpha & Beta)	If sampling more than one annually, report the highest running annual average.	See Example 3.
Combined Radium	Combined Radium is the sum of Radium 226 and Radium 228. If only one sample was collected for the year, report that sample result.	Water system collects one Radium 226 and 228 sample with the results of 3.2 and 1.1 pCi/L, respectively. Report: Level Found: 4.3 pCi/L; Range: NA.

Contaminant(s)	Calculation Method	Example
Combined Radium	If multiple samples are collected, report an average of the Combined Radium results.	Water system collects samples with Combined Radium results of 5.2 pCi/L and 3.1 pCi/L. This system would report: Level Found: 4.2; Range: 3.1 - 5.2

RTCR = Revised Total Coliform Rule effective April 1, 2016
GWR = Ground Water Rule

Detected Unregulated Contaminants

For those contaminants which Ohio EPA requires monitoring but there are no current MCLs, treatment techniques or action levels, the table must contain the average of any monitoring results from the year of the report and the range of detections. The list of unregulated monitoring contaminants can be found in Appendix A.

Example 1: Total Organic Carbon (TOC) Compliance Calculation

Sampling for TOC as required by the Disinfection/Disinfection Byproducts Rule is required for all surface water systems and all ground water systems with sources under the influence of surface water. TOC sampling for purposes of Disinfectants/Disinfection Byproducts Rule compliance is determined by a running annual average of the quarterly TOC Values as calculated in the Figure 3 below.

Source Water Total Alkalinity	65 mg/L
Source Water TOC	4 m/L
Finished Water TOC	2 mg/L
Actual Monthly TOC% removal	{1- (2 mg/L Finished TOC ÷ 4 mg/L Source TOC)} x 100 = 50%
% TOC removal required *(From Table 2 below)*	25%
TOC Value or Monthly Compliance Ratio	Divide the actual monthly % TOC removed by the % TOC removal required. 50% ÷ 25% = 2

Figure 3. Monthly TOC Value or Compliance Ratio Calculation.

Table 2. Required TOC Removal

	Source Water Alkalinity (mg/L as $CaCO_3$)		
Source Water TOC (mg/L)	0 - 60 mg/L	>60 - 120	>120
2.0 - 4.0	35%	25%	15%
>4.0 - 8.0	45%	35%	25%
>8.0	50%	40%	40%

To calculate compliance with the TOC requirements, add each monthly TOC Value for the most recent three months and divide by three. This is done each quarter giving a quarterly running annual average. Therefore, for any given CCR report year, a water system will have four quarterly running annual average TOC Values. Refer to

"Instructions for Completing the Surface Water Treatment Plant Monthly Operation Report".

Report the lowest quarterly running annual average of TOC values under "Level Found" and the range of monthly TOC Values under "Range". A statement similar to the following should be included to explain the meaning of the TOC value reported.

> *The value reported under "Level Found" for Total Organic Carbon (TOC) is the lowest ratio between percent of TOC actually removed to the percentage of TOC required to be removed. A value of greater than one (1) indicates that the water system is in compliance with TOC removal requirements. A value of less than one (1) indicates a violation of the TOC removal requirements.*

Note: The level found for **TOC** is the **lowest** quarterly running annual average and the Level Found for **Total Chlorine** is the **highest** quarterly running annual average.

Example 2: Lead and Copper Reporting

For lead and copper monitoring data, the Table of Detected Contaminants must include: (1) the system-wide 90th percentile for lead and copper, (2) the number of samples above the action level for lead and copper, and (3) the individual sample results for lead samples above the action level. See Appendix D. "Example Consumer Confidence Report" for how to display on the Table of Detected Contaminants.

If you are scheduled for 6-month monitoring for lead and copper, you must report information for both monitoring periods in the CCR year. Therefore, you will have two entries for lead and two entries for copper in your table of detected contaminants.

Note: All routine lead and copper compliance samples (not special purpose) must be included in the calculation of the 90th percentile. Routine lead sample results in exceedance of the action level must be listed individually, special purpose samples should not be included in the table.

Do consumer requested samples qualify as "routine" and have to be reported?
Any lead or copper sample, including samples requested by customers, that is submitted to a lab from a correctly tiered site, is a ' first draw tap sample', and is collected during the required monitoring period must be marked as a routine sample for compliance. For definitions of tier site categories, refer to http://epa.ohio.gov/portals/28/documents/reporting/LCRMonitoringandReportingInstructions.pdf
If a lead or copper sample does not meet all of the above qualifications, do not use the results in the Table of Detected Contaminants.

(1) To determine the 90th percentile, list the sample results in order from the lowest to the highest level. Then, take the total number of samples and multiply by 0.9. In Figure 4 below, 10 samples were collected; 10 samples x 0.9(90%) = 9th sample result, i.e., 12 ppb lead, 1.0 ppm copper).

Ranked Order	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
Sampling Sites	site 5	site 3	site 7	site 8	site 10	site 9	site 2	site 4	site 1	site 6
Lead (ppb)	<2.0	<2.0	<2.0	<2.0	3	4	8	10	12	22
Copper (ppm)	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	0.97	0.98	1.0	1.2

Figure 4. Example lead and copper sampling results.

(2) The number of samples above the action level can displayed as "Number above" out of "Number taken". For the sampling data in Figure 4 above the system would list lead as 1 out of 10 above the action level and copper as 0 out of 10 above the action level.

(3) The sample results for those exceeding the action level must be listed individually. For the data listed in Figure 4 only 1 sample result would need to be listed in the Table of Detected Contaminants. In the table lead = 22.0 ppb would be required to be listed for that sample.

Note To assist in calculating the 90th percentile, an Excel Worksheet has been provided online in the CCR Section under "Tools and Calculators for Making a CCR Table" at: https://epa.ohio.gov/ddagw/pws#113432740-consumer-confidence-reports. The direct link for this spreadsheet prompts a download in Excel and will open the spreadsheet. https://www.epa.ohio.gov/Portals/28/documents/reporting/90thPercentileCalculation.xls

Example 3: Quarterly Running Annual Averages at the Entry Point with Single Sample per Quarter

Below is the method for calculating a quarterly running annual average for a contaminant regulated at the entry point where compliance is based on a running annual average. For calculating averages for TTHM and HAA5 see examples 4 and 5.

Step 1 Collect all the past seven quarters of sample results for the detected contaminant and order them by date from the earliest to the most recent results. For the report year 2020 this will require data from samples collected on or after April 1, 2019, through December 31, 2020.

Step 2 In Figure 5, the Sample Value row shows the actual reported value from the laboratory form for each sample collected.

Step 3 Calculate the quarterly annual running average* for the 2020 quarters as follows:

Annual Running Average [Jan - Mar 2020]: (1.5 + 2.5 + 1.1 + 0) ÷ 4 = 1.28, round to 1.3

Annual Running Average [Apr - Jun 2020]: (2.5 + 1.1 + 0 + 1.6) ÷ 4 = 1.30, round to 1.3

Annual Running Average [Jul - Sept 2020]: (1.1 + 0 + 1.6 + 2.7) ÷ 4 = 1.35, round to 1.4

Annual Running Average [Oct - Dec 2020]: (0 + 1.6 + 2.7 + 1.2) ÷ 4 = 1.38, round to 1.4

* Note: A less than detect value (<) is counted as a zero value for averaging.

Step 4 Determine the highest quarterly value and range of individual sample values to be used in the Table of Detected Contaminants.

	2019 Atrazine Results (µg/l)	2020 Atrazine Results (µg/l)

Quarter	Apr-Jun	Jul- Sept	Oct- Dec	Jan-Mar	Apr-June	Jul - Sept	Oct-Dec
Sample Value (ug/l)	1.5	2.5	1.1	**<0.5**	1.6	**2.7**	1.2
Running Annual Average				1.3	1.3	**1.4**	**1.4**
CCR Report Values				Highest Compliance Value = 1.4 µg/l Range of Values = <0.5µg/l to 2.7 µg/l			

Figure 5. Quarterly Running Annual Average Calculation (with single sample each quarter)

Reporting TTHMs and HAA5s

Reporting for TTHMs and HAA5s is dependent on the population size and source water type of system. Detections and locational running averages (LRAAs) for TTHMS and HAA5s are reported using results from disinfection byproduct distribution samples, see examples 4 & 5 for calculating LRAAs. Detections of the individual trihalomethanes and haloacetic acids (from disinfection byproduct distribution sampling, not from VOC entry point results) must be listed separately as unregulated contaminants (see Appendix A).

Table 3. Stage 2 DBP Rule for Reporting TTHM & HAA5 Results.

Source and Population	Sample Freq.	TTHM/HAA5 MCL	Report Level for Table
SW & PSW <500	1/yr in 3rd quarter	80/60 ppb	single sample result †
SW & PSW 500-3,300	1/90 Days	80/60 ppb	LRAA based on 4 quarters
SW & PSW 3,301-9,999	2/90 Days	80/60 ppb	LRAA based on 4 quarters
SW & PSW 10,000-49,999	4/90 Days	80/60 ppb	LRAA based on 4 quarters
SW & PSW 50,000-249,999	8/90 Days	80/60 ppb	LRAA based on 4 quarters
SW & PSW 250,000-999,999	12/90 Days	80/60 ppb	LRAA based on 4 quarters
SW & PSW 1,000,000-4,999,999	16/90 Days	80/60 ppb	LRAA based on 4 quarters
GW & PGW <500	1/yr in 3rd quarter	80/60 ppb	single sample result †
GW & PGW 500-9,999	2/yr in 3rd quarter	80/60 ppb	each location sample result †
GW & PGW 10,000-99,999	4/90 Days	80/60 ppb	LRAA based on 4 quarters
GW & PGW 100,000-499,999	6/90 Days	80/60 ppb	LRAA based on 4 quarters
GW & PGW >500,000	8/90 Days	80/60 ppb	LRAA based on 4 quarters

SW=surface water GW=ground water PSW=purchased SW PGW purchased GW LRAA = locational running annual average

† In accordance with 3745-81-24(D) (3), for systems monitoring less frequently than quarterly, compliance with the MCL is based on the locational running annual average calculations beginning with the first compliance sample taken after the compliance date. If this average exceeds the MCL then quarterly monitoring is required. The system is not in violation of the MCL until 1 year of quarterly monitoring is completed unless the result of fewer than four quarters of monitoring will cause the LRAA to exceed the MCL. In that case the system is in violation at the end of that quarter. Systems required to increase their monitoring frequency to quarterly shall calculate the level found by including the sample which triggered the increased monitoring plus the following quarter of monitoring.

Example 4: Quarterly LRAAs with a single sample per quarter for Stage 2 DBP monitoring

The following method is used for calculating a quarterly LRAA for a system collecting a single sample per quarter. This procedure is intended for systems reporting results with at least two years of Stage 2 DBP monitoring and the example provided is for Haloacetic Acids, five (HAA5) but can also be used to calculate Total Trihalomethanes (TTHM). An LRAA must be used for reporting monitoring results under the stage 2 DBP rule.

Step 1 Collect seven quarters of sample results for the detected contaminant and order them by date from the earliest to the most recent results. For the report year 2020 this will require data from samples collected on or after April 1, 2019, through December 31, 2020. {For HAA5s, the result is the sum of five compounds (monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid and dibromoacetic acid) for each sample collected and are displayed in µg/l.}

Step 2 In Figure 6, the Sample Value row shows the actual reported value from the laboratory form for each sample collected.

Step 3 Calculate the quarterly HAA5 LRAA* for Site 1 (DS201) for the 2020 quarters as follows:

Locational Running Annual Average [1st Qtr 2020]: (31.5 + 32.5 + 31.1 + 30.25) ÷ 4 = 31.34, round to 31.3

Locational Running Annual Average [2nd Qtr 2020]: (32.5 + 31.1 + 30.25 + 31.6) ÷ 4 = 31.36 round to 31.4

Locational Running Annual Average [3rd Qtr 2020]: (31.1 + 30.25 + 31.6 + 62.7) ÷ 4 = 38.91, round to 38.9

Locational Running Annual Average [4th Qtr 2020]: (30.25 + 31.6 + 62.7 + 41.2) ÷ 4 = 41.44, round to 41.4

***Note:** A less than detect value (<) is counted as a zero value for averaging.

Step 4 Determine the highest LRAA value and range of individual sample values from all locations to be used in the *Table of Detected Contaminants*. For the example, use 41.4 µg/l for the level found and 30.25 to 67.7 µg/l for the range of detections (based on the highest and lowest individual HAA5 results from all locations during 2020.

	2019 HAA5 Results (µg/l)			**2020 HAA5 Results (µg/l)**			
Quarter	Apr-Jun	Jul- Sept	Oct- Dec	Jan-Mar	Apr-June	Jul - Sept	Oct-Dec
Sample Value (µg/l)	31.5	32.5	31.1	30.25	31.6	62.7	41.2
Locational Running Annual Average				31.3	31.4	38.9	41.4
CCR Report Values				Highest Compliance Value = 41.4 µg/l Range of Values = 30.25 µg/l to 62.7 µg/l			

Figure 6. Quarterly LRAA Calculation for Stage 2 DBP monitoring

Example 5: Quarterly LRAAs with multiple samples per quarter for Stage 2 DBP monitoring

The following method is used for calculating a locational running annual average where multiple samples have

been collected quarterly. This procedure is intended for systems reporting results with at least two years of Stage 2 DBP monitoring and the example provided is for Total Trihalomethanes (TTHMs) but can also be used to calculate a locational running annual average for Haloacetic Acids, five (HAA5). A locational running annual average must be used for reporting monitoring results under the stage 2 DBP rule.

Step 1 Collect the previous seven quarters of sample results for TTHMs at all locations and order the results by date from the earliest to the most recent results. For the report year 2020 this will require data from sample collected on or after April 1st 2019 through December 31, 2020. {For TTHMs, the result is the sum of four compounds (chloroform, bromoform, bromodichloromethane, and dibromochloromethane) for each sample collected and is displayed in µg/l.} In the following example samples were collected at four locations during each calendar quarter during the specific week outlined in the monitoring schedule.

Step 2 If multiple samples were collected from a location during the week specified in your monitoring schedule, average them. *Note that less than detect values are considered zero for the purposes of summing results and locational averaging.* A table similar to Figure 7 will help organize the results and help prevent calculation errors.

2020 TTHM Results (µg/L)	**April 2019**	**July 2019**	**October 2019**	**January 2020**	**April 2020**	**July 2020**	**October 2020**
Site 1 Quarterly Results	35.8	66.5	46.9	46.2	44.2	70.6	43.8
Site 1 - LRAA	-	-	-	**48.9**	**51.0**	**52.0**	**51.2**
Site 2 Quarterly Results	36.0	70.6	43.8	44.6	26.7	69.5	**56.4**
Site 2 - LRAA	-	-	-	**48.8**	**46.4**	**46.2**	**49.3**
Site 3 Quarterly Results	26.0	73.2	41.5	26.7	69.5	56.4	28.8
Site 3 - LRAA	-	-	-	**41.9**	**46.4**	**48.5**	**45.4**
Site 4 Quarterly Results	27.1	76.5	40.3	30.8	49.87	65.1	45.6
Site 4 – LRAA	-	-	-	**43.7**	**49.4**	**46.5**	**47.8**
CCR Report Values	Highest Compliance Value = 52.0 µg/L Range of Values = 26.7 to 70.6 µg/L						

Figure 7. Quarterly LRAA Calculation for Stage 2 DBP Monitoring.

Step 3 Average the four relevant result values for each location and quarter to determine LRAAs. There will be a total of 16 LRAAs for this example (four locations X four quarters in 2020).

Locational Running Annual Averages for Site 1 (DS201):	(35.8 + 66.5 + 46.9 + 46.2) ÷ 4 = 48.85 1st Qtr LRAA; round to **48.9 µg/l** (66.5 + 46.9 + 46.2 + 44.2) ÷ 4 = 50.95 2nd Qtr LRAA; round to **51.0 µg/l** (46.9 + 46.2 + 44.2 + 70.6) ÷ 4 = 51.98 3rd Qtr LRAA; round to **52.0 µg/l** (46.2 + 44.2 + 70.6 + 43.8) ÷ 4 = 51.20 4th Qtr LRAA; round to **51.2 µg/l**

Locational Running Annual Averages for Site 2 (DS202):	(36.0 + 70.6 + 43.8 + 44.6) ÷ 4 = 48.75 1st Qtr LRAA; round to **48.8 µg/l** (70.6 + 43.8 + 44.6 + 26.7) ÷ 4 = 46.43 2nd Qtr LRAA; round to **46.4 µg/l** (43.8 + 44.6 + 26.7 + 69.5) ÷ 4 = 46.15 3rd Qtr LRAA; round to **46.2 µg/l** (44.6 + 26.7 + 69.5 + 56.4) ÷ 4 = 49.30 4th Qtr LRAA; round to **49.3 µg/l**
Locational Running Annual Averages for Site 3 (DS203):	(26.0 + 73.2 + 41.5 + 26.7) ÷ 4 = 41.85 1st Qtr LRAA; round to **41.9 µg/l** (73.2 + 41.5 + 26.7 + 69.5) ÷ 4 = 52.73 2nd Qtr LRAA; round to **46.4 µg/l** (41.5 + 26.7 + 69.5 + 56.4) ÷ 4 = 48.53 3rd Qtr LRAA; round to **48.5µg/l** (26.7 + 69.5 + 56.4 + 28.8) ÷ 4 = 45.35 4th Qtr LRAA; round to **45.4 µg/l**
Locational Running Annual Averages for Site 4 (DS204):	(27.1 + 76.5 + 40.3 + 30.8) ÷ 4 = 43.68 1st Qtr LRAA; round to **43.7 µg/l** (76.5 + 40.3 + 30.8 + 49.87) ÷ 4 = 49.37 2nd Qtr LRAA; round to **49.4 µg/l** (40.3 + 30.8 + 49.87 + 65.1) ÷ 4 = 46.52 3rd Qtr LRAA; round to **46.5 µg/l** (30.8 + 49.87 + 65.1 + 45.6) ÷ 4 = 47.84 4th Qtr LRAA; round to **47.8 µg/l**

Step 4 Report results. The value to be reported in the *Table of Detected Contaminants* from the example above is 52.0 µg/L under Level Found and the Range of Detections would be 26.7 to 70.6 µg/L (based on the lowest & highest individual TTHM results over the four quarters from all locations).

Note To assist in calculating the Level Found and Range for DBPs, two Excel Worksheets have been provided online in the CCR Section under "Tools and Calculators for Making a CCR Table". https://epa.ohio.gov/ddagw/pws#113432740-consumer-confidence-reports
The direct links for the DPB Calculation Worksheets will prompt a download in Excel and open the spreadsheet(s).

- 2 Sites: https://epa.ohio.gov/Portals/28/documents/ccr/2-Sites.xlsx
- 4 Sites: https://epa.ohio.gov/Portals/28/documents/ccr/4-Sites.xlsx

Example 6: Annual Stage 2 DBP monitoring with a single sample site

The following method is used for reporting TTHM and HAA5 data for a system collecting from single site each year during July 1 to September 30. The example provided is for Haloacetic Acids, five (HAA5) but can also be used to report Total Trihalomethanes (TTHM). An LRAA must be used for reporting monitoring results under the stage 2 DBP rule. For systems collecting DBP samples once per year, the result from the annual sample is considered the LRAA for reporting purposes.

Step 1 Collect sample results for the detected contaminant {For HAA5s, the result is the sum of five compounds (monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid and dibromoacetic acid) for each sample collected and are displayed in µg/l.}

Step 2 In Figure 7, the Sample Value row shows the actual reported value from the laboratory form for the annual sample.

Step 3 Use the Sample value (also considered the LRAA value) as the Highest Compliance Value and the Range of Values in the *Table of Detected Contaminants*. For the example, use 22.6 µg/l for the level found and 22.6 to 22.6 µg/l for the range of values.

	2020 HAA5 Results (µg/l)			
Quarter	Jan-Mar	Apr-June	**Jul - Sept**	Oct-Dec
Sample Value (µg/l)	None	None	22.6	None
Locational Running Annual Average	None	None	**22.6**	None
CCR Report Values	Highest Compliance Value = 22.6 µg/l Range of Values = 22.6 µg/l to 22.6 µg/l			

Figure 8. Reporting for Stage 2 DBP monitoring

Example 7: Annual Stage 2 DBP monitoring with two sample sites

The following method is used for reporting TTHM and HAA5 data for a system collecting from two sites each year during July 1 to September 30. The example provided is for Haloacetic Acids, five (HAA5) but can also be used to report Total Trihalomethanes (TTHM). An LRAA must be used for reporting monitoring results under the stage 2 DBP rule. For systems collecting DBP samples once per year, the results from the annual samples are considered the LRAA for reporting purposes.

Step 1 Collect sample results for the detected contaminant from both sites {For HAA5s, the result is the sum of five compounds (monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid and dibromoacetic acid) for each sample collected and are displayed in µg/l.}

Step 2 In Figure 8, the Sample Value row shows the actual reported value from the laboratory form for the annual samples.

Step 3 Use the highest Sample value of the two (also considered the LRAA value) as the Highest Compliance Value. Use the lowest value to the highest value for the Range of Values in the *Table of Detected Contaminants*. For the example, use 42.1 µg/l for the level found and 33.9 to 42.1 µg/l for the range of values.

	2020 HAA5 Results (µg/l)			
Quarter	Jan-Mar	Apr-June	**Jul - Sept**	Oct-Dec
Site 1 - Sample Value (µg/l)	None	None	42.1	None
Site 1 - LRAA	None	None	**42.1**	None
Site 2 - Sample Value (µg/l)	None	None	33.9	None
Site 2 - LRAA	None	None	**33.9**	None
CCR Report Values	Highest Compliance Value = 42.1 µg/l Range of Values = 33.9 µg/l to 42.1 µg/l			

Figure 9. Reporting for Stage 2 DBP monitoring with two sample sites.

Example 8: Chlorine

Report the highest quarterly running annual average of the chlorine residuals measured during the Total Coliform sampling procedure. Use the total chlorine residual averages from the top of your Monthly Operating Reports from April of 2019 to December 2020. The "Level Found" = highest RAA among the 4 quarters of 2020. The Range in the 2020 CCR should be reported as the lowest monthly average to the highest monthly average between January to December 2020.

Note To assist in calculating the chlorine Level Found and Range, for the Table of Detected Contaminants, an Excel spreadsheet has been created and is on the Ohio EPA website, in the CCR Section, under "Tools and Calculators for Making a CCR Table" at epa.ohio.gov/ddagw/pws#113432740-consumer-confidence-reports. The direct link for "Calculating Chlorine" will prompt a download in Excel and open the spreadsheet: https://epa.ohio.gov/Portals/28/documents/ccr/Chlorine-Calculator.xlsx

Month	Chlorine (mg/L)	Quarterly Avg Chlorine	Running Annual Avg (RAA) for the quarter (mg/L)
Apr 2019	0.2	0.2 + 0.4 + 0.9/3 = 0.5	
May 2019	0.4		
June 2019	0.9		
Jul 2019	0.8	0.8 + 1.2 + 1.1/3 = 1.0	
Aug 2019	1.2		
Sep 2019	1.1		
Oct 2019	0.5	0.5 + 0.7 + 1.3/3 = 0.8	
Nov 2019	0.7		
Dec 2019	1.3		

Jan 2020	1.1	1.1 + 0.6 + 0.8/3 = 0.8	1st quarter 2020 RAA = 0.8 + 0.8 + 1.0 + 0.5 /4 = 0.78
Feb 2020	0.6		
Mar 2020	0.8		
Apr 2020	0.2	0.2 + 0.9 + 1 /3 = 0.7	2nd quarter 2020 RAA = 0.7 + 0.8 + 0.8 +1.0 /4 = 0.83
May 2020	0.9		
June 2020	1.0		
July 2020	0.6	0.6 + 0.7 + 0.2 /3 = 0.5	3rd quarter 2020 RAA = 0.5 + 0.7 + 0.8 + 0.8 /4 = 0.7
Aug 2020	0.9		
Sept 2020	0.2		
Oct 2020	1.3	1.3 + 0.7 + 1.1 / 3 = 1.0	4th quarter 2020 RAA = 1.0 + 0.5 + 0.7 + 0.8 /4 = 0.75
Nov 2020	0.7		
Dec 2020	1.1		
			Level Found = 0.83 mg/L Range = 0.2 - 1.3 mg/L

Figure 10. Chlorine Level Found calculation.

Example 9: Unregulated Contaminant Monitoring Rule (UCMR) Sampling

Public water systems participating in UCMR sampling must **provide a special notice of the availability of all unregulated contaminant monitoring results** and **report detected unregulated contaminants in a separate table** in the CCR.

An explanation of why a system monitors for unregulated contaminants and a notice that the results are available may be included such as:

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. In (year of report) (Public water system) participated in the fourth round of the Unregulated Contaminant Monitoring Rule (UCMR 4). For a copy of the results please call _____ at _____.

Detected contaminants that are sampled for under the unregulated contaminant monitoring rule must be included in a separate table in the report for the year in which they were sampled. At a minimum the table must contain the average of any monitoring results from the year, and the range of detections. Additional information and reference concentrations can be included. Information about these contaminants can be found at US EPAs website and in the Data Summary. See example 1 below for an example of an unregulated contaminants table. Consecutive systems should report any UCMR entry point detections from their wholesaler.

TABLE OF UNREGULATED CONTAMINANTS

Contaminants (Units)	Sample Year	Average Level Found	Range of Detections	Sample Location
Manganese (ppb)	2020	0.624	0.45-0.88	Entry Point
Haloacetic Acids (HAA5) (ppb)	2020	55.1	41.2-65.3	Distribution
Haloacetic Acids (HAA9) (ppb)	2020	62.1	43.1-74.1	Distribution
Haloacetic Acids (HAA6Br) (ppb)	2020	57.3	42.1-67.3	Distribution

All detected contaminants, including haloacetic acids, that are sampled under UCMR 4 and not for compliance should be reported in this separate table.

Unregulated contaminants only need to be reported in the year in which they were sampled. Non-detected contaminants should not be included in the table of unregulated contaminants.

Note: Under the public notice rule, public water systems participating in UCMR sampling must provide a special notice of the availability of unregulated contaminant monitoring results whether or not contaminants are detected. Systems need only report that the results are available and provide contact information for obtaining results. This notice can be published in the CCR.

Example 10. Reporting information about your participation in Ohio EPA's PFAS sampling

PWS with PFAS detections must include the following information about their initial finished water sample results in the CCR. PWS without detections are not required to include information about PFAS sampling in the CCR but may include optional language.

For PWS with PFAS detections: Entry point result information should be reported in the CCR. Raw water data is used for treatment optimization purposes and is not required to be reported. Include the following:

In 2020, our PWS was sampled as part of the State of Ohio's Drinking Water Per- and Polyfluoroalkyl Substances (PFAS) Sampling Initiative. Results from this sampling indicated PFAS were detected in our drinking water **{above the action level/below the action level}** established by Ohio EPA. Follow up monitoring is being conducted. For more information about PFAS, and to view our latest results, please visit pfas.ohio.gov.

PWS with no detections for PFAS may include the Optional language:
In 2020, our PWS was sampled as part of the State of Ohio's Drinking Water Per- and Polyfluoroalkyl Substances (PFAS) Sampling Initiative. Six PFAS compounds were sampled, and none were detected in our finished drinking water. For more information about PFAS, please visit pfas.ohio.gov.

Section 9: Additional Turbidity Information

Include this section if you are treating surface water. This section is meant to provide information on the reasons for measuring turbidity and to explain the results reported in the Table. This section may be modified to better help your customers understand the meaning and reasons for monitoring turbidity.

Section 10: Violation Description & Health Effects Information for MCL Exceedances, Treatment Technique, Contact Time (CT) Violations & Action Level Exceedances

This paragraph is to describe the type of MCL exceedance, Treatment Technique, Filtration or Disinfection (CT) violation or Action Level exceedance that occurred during the reporting year. The type of violation, the time period of the violation, the length of time the water system remained in violation or exceeded the action level and the steps taken to correct the violation or exceedance must be included.

This section must also contain specific statements on the health effects for each contaminant that has an MCL, is subject to a treatment technique or CT or exceeded an action level. If your public water system had any of these violations, then the required health effects information for that contaminant must be included in your report. If your public water system had E. coli positive results include the required health effects language. **The health effects statements as presented in Appendix B must appear in your CCR as written.** Additional information may be added but must not detract from the required text. All other health effects statements, for which there were no violations or exceedances, should **not** be included in the report.

If no violations occurred, delete this paragraph from the final report. Include separate paragraphs for different types of violations and combine multiple violations of the same type. For example, if the City of Hometown had a filtration violation during the month of April 2020, their report would contain a paragraph similar to the following describing the violation:

> *The City of Hometown Water Department failed to provide adequate filtration during the month of April, 2020.* ***Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.*** *The City of Hometown Water Department has taken the following steps to correct this violation and prevent future violations form occurring: The filters have been upgraded by replacing the filter media and steps have been taken to ensure proper cleaning and operation of the filters.*

The text that is in bold italics (as provided in Appendix B) must appear in the report for filtration and disinfection violations. The rest of the paragraph may be modified as needed to help your customers to better understand the reasons for the violation and actions taken to correct the violation.

Section 11: Nitrate Educational Information

This section is required if the nitrate level reported in the Table of Detected Contaminants was greater than 5 mg/L and less than 10 mg/L. This text must appear as written. Additional information may be included but may not detract from the required text.

> "*Nitrate in drinking water at levels above 10 ppm is a health risk for infants less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask advice from*

your health care provider."

Note: This educational language is different than the verbiage required for a Nitrate MCL violation.

Section 12: Arsenic Educational Information

This section contains educational information on health effects of arsenic. The language to be included is dependent on the levels detected. If the arsenic level reported in the Table of Detected Contaminants was greater than 5µg/L and up to, and including, 10 µg/L, include the below text as written. Additional information may be included but must not detract from the required text.

"*While your drinking water meets the EPA's standard for arsenic, it does contain low levels of arsenic. The EPA's standard balances the current understanding of possible health effects of arsenic against the cost of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems."*

Note: If an arsenic MCL violation occurred, language different than that above is required. If the level detected is greater than 10µg/L, replace this section with the health effects language for arsenic contained in Appendix B.

Section 13: Lead Educational Information

The following paragraph must be included in the CCR as written.

"If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. ***[Name of Public Water System]*** *is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 800-426-4791 or at http://www.epa.gov/safewater/lead."*

Note: Additional language is also required if a lead action level is exceeded (see Appendix B).

Section 14: Cryptosporidium Information

This section needs to be included if Cryptosporidium was detected either in the **RAW** or finished water. This section must include a summary of the results and an explanation of the significance of the results. This monitoring may not be required, but if conducted, the results and their meaning must be included in the CCR. Recommended wording has been provided but may be expanded upon if you desire. You may need to adjust the first two sentences to summarize the sampling that was conducted. Assume City of Hometown Water Department

collected ten Cryptosporidium samples from the raw water and one sample contained Cryptosporidium. The following example of what may appear in the report:

"The City of Hometown Water Department monitored for Cryptosporidium in the source water during 2020. Cryptosporidium was detected in 1 sample of 10 collected from the raw water. It was not detected in the finished water. Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes cryptosporidium, the most commonly used filtration methods cannot guarantee 100% removal. Monitoring of source water indicates the presence of these organisms. Current test methods do not enable us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water."

Section 15: Finished Water Radon Monitoring Information

This section only needs to be included if sampling for radon was detected in the finished water. This monitoring is not required but if conducted the results and their meaning must be included in the report. This section must include a summary of the results and an explanation of the significance of the results. Recommended wording is provided in the template. It may be expanded upon if desired. The number of samples collected will determine the format of the first sentence of this section. If more than one sample was collected, report the average of all finished water results.

Section 16: Ground Water Rule (GWR) Information / Significant Deficiencies

There are three conditions under the GWR that requires notification in the CCR: 1) violations for failure to monitor and failure to meet treatment technique requirements; 2) Significant Deficiencies and/or Significant Deficiency violations and 3) Fecal Indicator-positive ground water source water samples.

Violations for failure to monitor and failure to meet treatment technique requirements must be described in the CCR. Report what the violation is for, the time period in which it occurred, and what the system is doing to correct the violation (see Section 7 & Section 10).

Ground water systems that received a notice from the director of a significant deficiency or notice from a laboratory of a fecal indicator-positive ground water source sample shall inform its customers of any significant deficiency that is uncorrected at the time of the next report or of any fecal indicator-positive ground water source sample in the next report. The system shall continue to inform the public annually until the director determines that particular significant deficiency is corrected or the fecal contamination in the ground water source is addressed.

If required, a system with significant deficiencies that have been corrected before the next report is issued shall inform its customers of the significant deficiency, how the deficiency was corrected and the date of correction in accordance with this paragraph. Each report shall include all of the following elements: (a) The nature of the particular significant deficiency or the source of the fecal contamination (if the source is known) and the date the significant deficiency was identified by the director or the dates of the fecal indicator-positive ground water source samples. (b) If the fecal contamination in the ground water source has been addressed under rule 3745-81-43 of the Administrative Code and the date of such action.

Violations of Significant Deficiencies require a Special Notice in the CCR. For each significant deficiency or fecal contamination in the ground water source that has not been addressed, describe the director-approved plan and schedule for correction, including interim measures, progress to date, and any interim measures completed. For a fecal indicator-positive ground water source sample, include the potential health effects using the health effects language in Appendix B.

An example of suggested language for failing to address a significant deficiency is as follows:

"We were informed by the Ohio EPA that a significant deficiency (list the deficiency) had been identified on (letter date). We were directed to correct the deficiency by (deadline) but we failed to do so. We (are implementing/have completed) the corrective action plan which is (describe specific action plan) by (deadline) as prescribed by the Ohio EPA."

Note: Significant deficiency violation information must be included in the CCR every year until the significant deficiency has been corrected.
Fecal indicator-positive ground water source samples must be reported in the Table of Detected Contaminants as follows:

Contaminant (Units)	MCLG	MCL	Value	Range of Detections	Violation	Year Sampled	Typical Source of Contaminants
Fecal indicator (E. coli)	NA	TT	Positive (E. coli)	NA	No	2020	Human and animal fecal waste

A Special Notice for fecal indicator-positive ground water source samples must also be included in the body of the report. An example of suggested language (plus mandatory language **in bold**) is as follows:

"On (date) we were informed that one of our routine bacteria samples collected on (sample date) was total coliform positive. As required by the Ground Water Rule, we collected (a sample / # samples) from (list source) for fecal contamination analysis. The (source) sample was positive for fecal contamination (E. coli). Inadequately treated or inadequately protected water may contain disease-causing organisms. These organisms can cause symptoms such as diarrhea, nausea, cramps and associated headaches. ***Fecal indicators***

are microbes whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune system. *In response, we sent notices to all of our customers within 24 hours of learning of this positive sample. (Explain how the situation was or will be resolved and list the date of completion or proposed date of completion.)"*

Note: A Special Notice for fecal contamination must be included in your CCR every year until Ohio EPA determines the situation has been corrected.

Section 17: Revised Total Coliform Rule (RTCR) Information

For the RTCR, PWSs are required to include the number of E. coli positive samples, any violations, and that a Level 1 or Level 2 Assessment was triggered during 2020. To explain the new rule, a PWS could include the following suggested language in the CCR:

> *All water systems were required to begin compliance with a new rule, the Revised Total Coliform Rule, on April 1, 2016. The new rule maintains the purpose to protect public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of total coliform bacteria, which includes E. coli bacteria. The U.S. EPA anticipates greater public health protection under the new rule, as it requires water systems that are vulnerable to microbial contamination to identify and fix problems. As a result, under the new rule there is no longer a maximum contaminant level violation for multiple total coliform detections. Instead, the new rule requires water systems that exceed a specified frequency of total coliform occurrences to conduct an assessment to determine if any significant deficiencies exist. If found, these must be corrected by the PWS.*

PWSs that triggered a Level 1 or Level 2 Assessment must inform their customers of:

a) The appropriate text (dependent on whether there is an E. coli MCL), listed below
b) The number of assessments required and completed.
c) The corrective actions required and completed.
d) The reasons for conducting assessments and corrective actions.
e) Whether the PWS has failed to complete any required assessments or corrective actions.
f) the specific assessment-related definitions as appropriate

If your PWS was required to comply with the Level 1 Assessment requirement or a Level 2 Assessment that was not due to an E. coli MCL violation, the PWS shall include the following text in the report, as applicable, filling in the blanks accordingly:

(a) "Coliforms are bacteria which are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessments to identify problems and to correct any problems that were found during these assessments."

(b) *"During the past year we were required to conduct [insert number of level one assessments] level one assessments. [insert number of level one assessments] level one assessments were completed. In addition, we were required to take [insert number of corrective actions] corrective actions and we completed [insert number of corrective actions] of these actions.*

(c) *"During the past year [insert number of level two assessments] level two assessments were required to be completed for our water system. [insert number of level two assessments] level two assessments were completed. In addition, we were required to take [insert number of corrective actions] corrective actions and we completed [insert number of corrective actions] of these actions."*

If the PWS was required to conduct a Level 2 Assessment due to an E. coli MCL violation, the PWS shall include in the report the following text, filling in the blanks accordingly:

(a) *"E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches or other symptoms. They may pose a greater health risk for infants, young children, the elderly and people with severely compromised immune systems. We found E. coli bacteria, indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessments to identify problems and to correct any problems that were found during these assessments."*

(b) *"We were required to complete a level two assessment because we found E. coli in our water system. In addition, we were required to take [insert number of corrective actions] corrective actions and we completed [insert number of corrective actions] of these actions."*

A PWS that must conduct a Level 1 or Level 2 Assessment must include the specific assessment-related definitions in their CCR, as appropriate (see Section 21).

RTCR VIOLATIONS:

A PWS that detects *E. coli* and has violated the *E. coli* MCL, must include one or more of the following statements to describe the noncompliance, as applicable:

- *We had an* E. coli-*positive repeat sample following a total coliform-positive routine sample.*
- *We had a total coliform-positive repeat sample following an* E. coli-*positive routine sample.*
- *We failed to take all required repeat samples following an* E. coli-*positive routine sample.*
- *We failed to test for* E. coli *when a repeat sample tested positive for total coliform.*

If a PWS detects E. coli and has not violated the E. coli MCL, in addition to completing the table as described in Section 8 of this document, the system may include a statement that explains that although they have detected E. coli, they are not in violation of the E. coli MCL.

Any system that has failed to complete all the required Level 1 or Level 2 Assessments or correct all identified significant deficiencies, is in violation of the treatment technique requirement and must also include one or both of the following statements, as applicable:

- *"We failed to conduct the required assessment."*
- *We failed to correct all significant deficiencies that were identified during the assessment that we conducted."*

Section 18: License to Operate (LTO) Information

All community public water systems are required to report the status of their License to Operate (LTO) in the CCR for that given year. One of four possible situations describes the status of a LTO, and it must be included in the report.

1. A green LTO was issued without any conditions. A statement similar to the following must be included in the CCR:

   "In 2020, we had an, unconditioned license to operate our water system."

2. A yellow LTO was issued under certain ongoing conditions or violations that continue to need to be met. Therefore, statements similar to the following must be included in the CCR:

   In 2020, we had a conditioned license to operate our public water system. The conditions require us to address ongoing violations. For more information on these violations, contact (name and phone number)."

3. A red LTO was issued to systems with revoked or suspended license. Statements similar to the following must be included in the CCR:

   "Our 2020 license to operate this public water system was (suspended/revoked) based on ongoing violations. Until we address our violations and obtain a license to operate from the Ohio EPA, we are prohibited to operate this public water system. For more information on all of our violations, contact (name and phone number)."

4. For systems that fail to pay the LTO, statements similar to the following must be included in the CCR:

   "We did not have a current license to operate in 2020 as required by the Ohio EPA. We plan to pay the fee as soon as possible. To prevent this from happening in the future, we plan to pay the fee immediately upon request from the Ohio EPA."

Section 19: Meeting Public Notice Requirements

Public water systems that want to include a public notice in your CCR in lieu of mailing the notice separately, must include all required public notice components and note the inclusion on the certification form. Note that all required public notice components for monitoring violations are provided in the Ohio EPA violation letter. The requirement to describe the violation in section 7 does not meet the requirements of issuing a public notice. **Ohio EPA recommends including the public notice provided with the notice of violation in its entirety, or the exact language, in the CCR to satisfy all these requirements.**

Public water systems required to provide notice no later than one year after the system learns of a violation or situation may use the CCR to distribute the public notice. This includes monitoring and reporting violations, fluoride secondary maximum contaminant level exceedances, and participation in UCMR sampling and the

availability of results. If the CCR is the chosen method to deliver the public notice, the following elements must be included:

a) A description of the violation or situation including the contaminant(s) of concern, the MCL and contaminant level(s) (as applicable);

b) When the violation or situation occurred;

c) For the SMCL for fluoride, or special situation, potential adverse health effects from the violation or situation, including standard health effects language, (Appendix B);

d) Standard language for monitoring and testing procedure violations, including the language necessary to fill in the blanks:

"We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. During (compliance period), we ('did not monitor or test' or 'did not complete all monitoring or testing') for (contaminant(s)) and therefore cannot be sure of the quality of your drinking water during that time."

e) The population at risk including subpopulations particularly vulnerable if exposed to the contaminant in the drinking water;

f) Whether alternative water supplies should be used; what actions consumers should take, including when they should seek medical help, if known;

g) What the system is doing to correct the violation or situation;

h) When the water system expects to return to compliance or resolve the situation

i) The name, business address, and phone number of the water system owner, operator, or public water system designee as a source of additional information concerning the notice, and;

j) A statement to encourage the notice recipient to distribute the public notice to other persons served, using the following standard language:
"Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, apartments, nursing homes, schools, businesses). You can do this by posting this notice in a public place or distribution copies by hand or mail."

Section 20: Public Participation Information

This section lets customers know how, when and where they will be given the opportunity to express their concerns and have questions answered. The first part of this section provides a space to provide information on public meetings of the water system's governing body (Water Board, Board of Public Affairs, Council, etc.) This should include the date and time of their regularly scheduled meetings and where such meetings are held.
The second part is to include the contact information of a person who is familiar with the water system and the

report, and will be available to answer questions. **Both parts of this section are required.**

If your public water system does not hold regularly scheduled meetings, public participation is still required. You can include language that says:

"While we do not hold regularly scheduled meetings, if the need for one arises you will be notified by _____."

OR

*"Public participation and comment are encouraged. To participate or for more information on your drinking water contact **{Water system contact person} at {Phone #}."***

Community water systems that serve a large portion of non-English speaking residents (defined as 10% or more of the residents speak the same non-English language), the report shall contain the following:

a) Information in the appropriate language or languages regarding the importance of the CCR (see "Language Translations" on the Ohio EPA website at: *www.epa.state.oh.us/ddagw/ccr.html*).

b) A telephone number or address where such residents may contact the community water system to obtain a translated copy of the CCR or assistance in the appropriate language.

Section 21: Definitions

The CCR must include definitions of key terms that customers may need to understand the contaminant data. The definitions in the template are required if used in the CCR. **MCL and MCLG definitions are mandatory in all CCRs.** Definitions for TT, MRDL, MRDLG, CT, AL, the "<" symbol, pCi/L, ppm, and ppb are required if referenced in the Table of Detected Contaminants. Definitions for Microcystins, cyanobacteria, cyanotoxin, Level 1 or Level 2 Assessment are required if they are used in the CCR. Be sure to include definitions of any terms not used in everyday language. This will help prevent questions concerning the meaning of the results. A PWS that must conduct a Level 1 or Level 2 assessment must include the appropriate definitions as they are written below.

MANDATORY DEFINITIONS:

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Contaminant level (MCL): The highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

DEFINITIONS REQUIRED IF THE TERM IS USED IN THE CCR:

Maximum Residual Disinfectant Level (MRDL): The highest residual disinfectant level allowed.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of residual disinfectant below which there is no known or expected risk to health.

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Threshold level: The lead threshold level is exceeded at 0.015 milligrams per liter concentration of lead in an individual tap water sample.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Contact time (CT) means the mathematical product of a "residual disinfectant concentration" (C), which is determined before or at the first customer, and the corresponding "disinfectant contact time" (T).

Microcystins: Liver toxins produced by a number of cyanobacteria. Total microcystins are the sum of all the variants/congeners (forms) of the cyanotoxin microcystin.

Cyanobacteria: Photosynthesizing bacteria, also called blue-green algae, which naturally occur in marine and freshwater ecosystems, and may produce cyanotoxins which at sufficiently high concentrations can pose a risk to public health.

Cyanotoxin: Toxin produced by cyanobacteria. These toxins include liver toxins, nerve toxins and skin toxins. Also sometimes referred to as “algal toxin.”

Level 1 Assessment: A Level 1 assessment is a study of the water system to identify the potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

Level 2 Assessment: A level 2 assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why and E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

PFAS: Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals applied to many industrial, commercial and consumer products to make them waterproof, stain resistant, or nonstick. PFAS are also used in products like cosmetics, fast food packaging, and a type of firefighting foam called aqueous film forming foam (AFFF) which are used mainly on large spills of flammable liquids, such as jet fuel. PFAS are classified as contaminants of emerging concern, meaning that research into the harm they may cause to human health is still ongoing.

DEFINITIONS OF TERMS NOT USED IN EVERYDAY LANGUAGE:

Parts per Million (ppm) are units of measure for concentration of a contaminant. A part per million corresponds to one second in approximately 11.5 days.

Parts per Billion (ppb) are units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.

The "<" symbol: A symbol which means 'less than'. A result of "<5" means that the lowest level detected was 5 and the contaminant in that sample was not detected.

Picocuries per liter (pCi/L): A common measure of radioactivity.

III. Responsibility of Wholesalers and Purchased Water Systems

By **April 1st annually**, public water systems that sell water (wholesalers) to other community public water systems need to provide specific information to their satellite water systems. This information will, in turn, enable satellite systems to complete and deliver their CCR by the July 1st deadline.

The required information to be provided includes: all applicable source water information, the Table of Detected Contaminants, information on cryptosporidium and radon, compliance with state primary drinking water rules, and definitions of terms used in the Table.

Source water information (Section 3) includes the type of water (surface water or ground water) and the commonly used name (if any) and location of the body or bodies of water. Also include source water assessment information if an Ohio EPA source water assessment has been completed. All surface water systems, including systems purchasing surface water, should include language that states their source is susceptible to contamination. For all community water systems Ohio EPA conducted a source water assessment to determine your susceptibility to contamination.

For the Table of Detected Contaminants, only plant tap monitoring detections need to be provided by the wholesaler. This is referred to as entry point data because it is the first tap after the treatment process is complete. Examples include but are not limited to: Nitrate, Nitrate, Inorganics, Volatile Organic Compounds (VOCs), Synthetic Organic Chemicals (SOCs), Radiological samples, and UCMR entry point results. The satellite system would then need to expand the table to include any contaminants detected within the satellite system distribution. This includes E.coli MCLs, lead and copper information, disinfection by-product detects, and total chlorine levels.

Also, the wholesaler shall provide any other information that may be pertinent to the source or water treatment plant such as that for turbidity (Section 9), MCL and treatment technique violations (Section 10), nitrate education information (Section 11), arsenic education information (Section 12), Cryptosporidium information (Section 14) and Ground Water Rule information (Section 16). Note that this information needs to be provided by the wholesaler to the purchaser only if required to be reported by the wholesaler. **The satellite system is then required to report this information in their CCR.**

IV. The Template - Putting It All Together

After filling in all sections of the CCR template that apply to your water system, it will be necessary to compile the report in an easy-to-read format. Delete all text in the template that does not apply to your system and is not required. Be sure to remove the short instructions that are contained within the template which are meant to assist in its use and development of a custom CCR. These instructions appear in italic surrounded by braces ***{instructions}***. Delete the Section numbers once the template is completed.

You may change the order of any text contained in the report if you feel it will make it easier for your customers to understand, but you must not delete any required paragraphs or language. Also feel free to include additional public education information. Such information can be used to help educate your customers on basic water system operations and requirements or to answer commonly asked questions.

Formatting your report to be aesthetically pleasing can greatly influence your customer's opinion. A report which is a large amount of plain text printed on standard paper will not be received as well as one which has been carefully presented. Use bolded or italics text to highlight important topics. Include graphics, text boxes, and borders if possible, to make a more presentable report.

CCRiWriter

US EPA offers a tool called CCRiWriter to help water systems create their CCRs. CCRiWriter is a web-based application that can be found online here: https://www.epa.gov/ccr/how-water-systems-comply-ccr-requirements#tools

If you choose to use CCRiWriter, there are several Ohio specific requirements that are not included in the finished CCR and must be added. The requirements that must be added are:

1. A license to operate statement (see section 18, page 24)
2. Public participation information (see section 20, page 26)
3. Lead and Copper reporting must include in the table the number of samples that exceeded the action level out of the total number of samples taken. It must also include all individual samples results for lead in excess of the action level within the table (see section 8, example 2, page 11)
4. If you are scheduled for 6-month monitoring for lead and copper, you must report information for both monitoring periods in the CCR year. CCRiWriter will not do this for you, so you must append your table to include information for both monitoring periods in the CCR year.

Once you have finished inputting the information into CCRiWriter, you can generate the CCR as a word file. You can then type in this information into the generated CCR.

V. Instructions for CCR Delivery & Reporting to Ohio EPA

1. Starting in 2012, electronic methods of delivery became an acceptable option as long as conditions of direct delivery are met. *If the CCR is not delivered by a paper copy, then a statement must be included in the electronic notification that a paper copy is available upon request, along with the phone number to call for a copy.* CCR delivery may now be accomplished by any one or a combination of the following methods:
    a. Mail or hand deliver a paper copy
    b. Mail notification that the CCR is available on your website via a direct URL (i.e., in the water bill, water bill enclosure, separate mailing postcard, etc.).
    c. Email the direct URL to the CCR
    d. Email the CCR as a file attachment
    e. Email the CCR embedded in the message

    For electronic delivery to be accepted remember:
    - The announcement on the bill must make it clear that the water systems' annual report is available.
    - The URL provided must be short and simple (e.g., www.villageofwater.2020CCR.com) and it must be a direct link to the CCR. A shortened URL can be created through a third-party shortening service that creates a website redirect.
    - Providing a website address that requires a customer to search for the CCR DOES NOT MEET THE "DIRECT DELIVERY" REQUIREMENT.
    - Ensure the CCR is posted on the internet and the link provided to consumers is active before sending notification that the CCR is available.
    - A message must be included on the bill stating that a consumer may, call to have a paper copy of the CCR be sent to them, and a phone number provided.

2. Send a copy of the CCR, a copy of the bill, email, or other announcement of CCR electronic availability (with the URL provided to consumers), and the CCR Certification Form (Appendix C) to the Ohio EPA, DDAGW - Central Office, PO Box 1049, Columbus, OH 43216-1049 by no later than July 1 of the year following the report year (i.e., July 1, 2021 for 2020 CCRs). When sending an example of a water bill, please do not include a customer's personal information, all documents received are considered public records and are scanned and posted on the Ohio EPA eDocument Portal (edocpub.epa.ohio.gov/publicportal/).

3. "Good Faith Effort" – Water systems continue to be required to make a good faith effort to reach those customers that do not receive a water bill. An adequate good faith effort will be tailored to the consumers who are served by the system and should include a mix of methods appropriate to the particular system. Some suggested methods include posting the reports on the Internet, mailing to postal patrons in metropolitan areas, adverting the availability of the report in the news media, publication in a local newspaper, posting in public places such as cafeterias or lunch rooms of public buildings, delivery of

multiple copies for distribution by single-billed customers such as apartment buildings, condominium complexes or large private employers, and delivery to community organizations.

4. Water systems must have extra reports available upon request.

5. Water systems serving 100,000 or more consumers are required to post the current report to a publicly accessible site on the internet for at least a one-year period.

6. Water systems are required to retain a copy of their CCR for at least three years.

More information on preparing and delivering your CCR is available from U.S. EPA at http://www.epa.gov/ccr, including the "Best Practices Factsheet: Consumer Confidence Report" which can be located directly at http://www.epa.gov/sites/production/files/2015-09/documents/epa816f15002.pdf.

VI. Appendix A: Table of Regulated Contaminants with MCL, MCLG and Potential Source of Contaminants and List of Unregulated Contaminants

1. Regulated Contaminants

MCL and MCLG values are expressed as whole numbers for use in the CCR.

Table 4. Regulated Contaminants

Contaminant (units)	MCL	MCLG	Typical Sources of Contaminant
Microbiological Contaminants			
Total Coliform Bacteria	TT	NA	Naturally present in the environment
Fecal coliform and *E. coli*	A routine sample and a repeat sample are total coliform positive and one is also fecal coliform or *E. coli* positive.	0	Human and animal fecal waste
Total Organic Carbon	TT	n/a	Naturally present in the environment
Turbidity (NTU)	TT	n/a	Soil runoff
Microcystins (ppb)	0.3 AL for children under 6 and sensitive populations 1.6 for children 6 and older and adults	n/a	Produced by some naturally occurring cyanobacteria, also known as blue-green algae, which under certain conditions (i.e., high nutrient concentration and light intensity) may produce microcystins.
Radioactive Contaminants			
Beta/photon emitters	4 mrem/yr (AL=50 pCi/L)	0	Decay of natural and man-made deposits
Alpha emitters (pCi/l)	15	0	Erosion of natural deposits
Combined radium (pCi/l)	5	0	Erosion of natural deposits
Uranium (ppb)	30	0	Erosion of natural deposits
Inorganic Contaminants			
Antimony (ppb)	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder
Arsenic (ppb)	10	0	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes
Asbestos (MFL)	7	7	Decay of asbestos cement water mains; Erosion of natural deposits
Barium (ppm)	2	2	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Beryllium (ppb)	4	4	Discharge from metal refineries and coal-burning factories; Discharge from electrical, aerospace, and defense industries

Contaminant (units)	MCL	MCLG	Typical Sources of Contaminant
Bromate (ppb)	10	0	By-product of drinking water chlorination
Cadmium (ppb)	5	5	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries & paints
Chloramines (ppm)	MRDL=4	MRDL=4	Water additive used to control microbes
Chlorite (ppm)	1.0	0.8	By-product of drinking water chlorination
Chromium (ppb)	100	100	Discharge from steel and pulp mills; Erosion of natural deposits
Copper (ppm)	AL=1.3	1.3	Corrosion of household plumbing systems; Erosion of natural deposits.
Cyanide (ppb)	200	200	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories
Fluoride (ppm)	4	4	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Lead (ppb)	AL=15	0	Corrosion of household plumbing systems; Erosion of natural deposits
Mercury [inorganic] (ppb)	2	2	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from crop land
Nitrate (ppm)	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; Erosion of natural deposits
Nitrite (ppm)	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; Erosion of natural deposits
Selenium (ppb)	50	50	Discharge from petroleum and metal refineries; erosion of natural deposits; discharge from mines
Thallium (ppb)	2	0.5	Leaching from ore-processing sites; Discharge from electronics, glass, and drug factories
Synthetic Organic Contaminants including Pesticides and Herbicides			
2,4-D (ppb)	70	70	Runoff from herbicide used on row crops
2,4,5-TP [Silvex](ppb)	50	50	Residue of banned herbicide
Acrylamide	TT	0	Added to water during wastewater treatment
Alachlor (ppb)	2	0	Runoff from herbicide used on row crops
Atrazine (ppb)	3	3	Runoff from herbicide used on row crops
Benzo(a)pyrene [PAH] (nanograms/l)	200	0	Leaching from linings of water storage tanks and distribution lines
Carbofuran (ppb)	40	40	Leaching of soil fumigant used on rice and alfalfa

Contaminant (units)	MCL	MCLG	Typical Sources of Contaminant
Chlordane (ppb)	2	0	Residue of banned termiticide
Dalapon (ppb)	200	200	Runoff from herbicide used on rights of way
Di(2-ethylhexyl) adipate (ppb)	400	400	Discharge from chemical factories
Di(2-ethylhexyl) phthalate (ppb)	6	0	Discharge from rubber and chemical factories
Dibromochloropropane (ppt)	200	0	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards
Dinoseb (ppb)	7	7	Runoff from herbicide used on soybeans and vegetables
Diquat (ppb)	20	20	Runoff from herbicide use
Dioxin [2,3,7,8-TCDD] (ppq)	30	0	Emissions from waste incineration and other combustion; Discharge from chemical factories
Endothall (ppb)	100	100	Runoff from herbicide use
Endrin (ppb)	2	2	Residue of banned insecticide
Epichlorohydrin	TT	0	Discharge from industrial chemical factories; An impurity of some water treatment chemicals
Ethylene dibromide (ppt)	50	0	Discharge from petroleum refineries
Glyphosate (ppb)	700	700	Runoff from herbicide use
Heptachlor (ppt)	400	0	Residue of banned pesticide
Heptachlor epoxide (ppt)	200	0	Breakdown of heptachlor
Hexachlorobenzene (ppb)	1	0	Discharge from metal refineries and agricultural chemical factories
Hexachlorocyclopentadiene (ppb)	50	50	Discharge from chemical factories
Lindane (ppt)	200	200	Runoff/leaching from insecticide used on cattle, lumber, gardens
Methoxychlor (ppb)	40	40	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock
Oxamyl [Vydate] (ppb)	200	200	Runoff/leaching from insecticide used on apples, potatoes and tomatoes
PCBs [Polychlorinated biphenyls] (ppt)	500	0	Runoff from landfills; Discharge of waste chemicals
Pentachlorophenol (ppb)	1	0	Discharge from wood preserving factories
Picloram (ppb)	500	500	Herbicide runoff
Simazine (ppb)	4	4	Herbicide runoff
Toxaphene (ppb)	3	0	Runoff/leaching from insecticide used on cotton and cattle

Contaminant (units)	MCL	MCLG	Typical Sources of Contaminant
Volatile Organic Contaminants			
Benzene (ppb)	5	0	Discharge from factories; Leaching from gas storage tanks and landfills
Carbon tetrachloride (ppb)	5	0	Discharge from chemical plants and other industrial activities
Chlorobenzene (ppb)	100	100	Discharge from chemical and agricultural chemical factories
o-Dichlorobenzene (ppb)	600	600	Discharge from industrial chemical factories
p-Dichlorobenzene (ppb)	75	75	Discharge from industrial chemical factories
1,2-Dichloroethane (ppb)	5	0	Discharge from industrial chemical factories
1,1-Dichloroethylene (ppb)	7	7	Discharge from industrial chemical factories
cis-1,2-Dichloroethylene (ppb)	70	70	Discharge from industrial chemical factories
trans-1,2-Dichloroethylene (ppb)	100	100	Discharge from industrial chemical factories
Dichloromethane (ppb)	5	0	Discharge from pharmaceutical and chemical factories
1,2-Dichloropropane (ppb)	5	0	Discharge from industrial chemical factories
Ethylbenzene (ppb)	700	700	Discharge from petroleum refineries
Haloacetic Acids [HAA5] (ppb)	60	n/a	By-product of drinking water chlorination
Styrene (ppb)	100	100	Discharge from rubber and plastic factories; Leaching from landfills
Tetrachloroethylene (ppb)	5	0	Discharge from factories and dry cleaners
1,2,4-Trichlorobenzene (ppb)	70	70	Discharge from textile-finishing factories
1,1,1-Trichloroethane (ppb)	200	200	Discharge from metal degreasing sites and other factories
1,1,2-Trichloroethane (ppb)	5	3	Discharge from industrial chemical factories
Trichloroethylene (ppb)	5	0	Discharge from metal degreasing sites and other factories
TTHMs [Total Trihalomethane] (ppb)	80	n/a	By-product of drinking water chlorination
Toluene (ppm)	1	1	Discharge from petroleum factories
Vinyl Chloride (ppb)	2	0	Leaching from PVC piping; Discharge from plastics factories
Xylenes (ppm)	10	10	Discharge from petroleum factories; Discharge

Contaminant (units)	MCL	MCLG	Typical Sources of Contaminant
			from chemical factories
Residual Disinfectants			
Total Chlorine (ppm)	= 4	MRDLG=4	Water additive used to control microbes.
Chlorine Dioxide (ppb)	MRDL = 800	MRDLG = 800	Water additive used to control microbes.

2. Unregulated Contaminants

Unregulated contaminants for which Ohio EPA requires monitoring are listed below. If you monitor for and detect any of these contaminants at levels above the reporting limit, be sure to include the results in your Table of Detected Contaminants. Presently, there are no MCL or Action Levels for these contaminants. We encourage you to include more information on the potential health effects of these contaminants if the results may indicate a health concern. You can call the Safe Drinking Water Hotline (800-426-4791) for this information or find it on the EPA's web site at www.epa.gov. For these contaminants, EPA recommends that the report contain an explanation of the significance of the results, noting the existence of the health advisory or proposed MCL. The units to be used when reporting these compounds should be **ppb** unless otherwise noted in the list below.

Aldicarb
Aldicarb sulfone
Aldicarb sulfoxide
Aldrin
Bromobenzene
Bromochloromethane
Bromodichloromethane
Bromoform (tribromomethane)
Bromomethane (methyl bromide)
Butachlor
sec-Butylbenzene
n-Butylbenzene
tert-Butylbenzene
Carbaryl
Chlorodibromomethane (or Dibromochloromethane)
Chloroethane
Chloroform (trichloromethane)
Chloromethane
o-Chlorotoluene
p-Chlorotoluene
Dibromomethane
Dicamba
m-Dichlorobenzene
Dichlorodifluoromethane
1,1-Dichloroethane
2,2-Dichloropropane
1,3-Dichloropropane
1,1-Dichloropropene
1,3-Dichloropropene
Dieldrin
Fluorotrichloromethane
Hexachlorobutadiene
3-Hydroxycarbofuran
Isopropylbenzene
p-Isopropyltoluene
Methomyl
Metolachlor
Metribuzin
Naphthalene
Nickel
Propachlor
n-Propylbenzene
Sulfate ***(ppm)***
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
1,2,3-Trichlorobenzene
1,2,3-Trichloropropane
1,2,4-Trimethylbenzene
1,3,5-Trimethylbenzene

3. Non-Regulated Contaminants

A **non-regulated** contaminant is one in which Ohio EPA does not require testing and does not have a MCL. If you sample for and detect a **non-regulated** contaminant, you are not required to include it in the Table of Detected Contaminants.

VII. Appendix B: Mandatory Health Effects Language for MCL, MRDL, TT, CT Violations, and AL Exceedances

1. Mandatory Health Effects Language for MCL, MRDL, TT, CT Violations and AL Exceedances

A. Microbiological Contaminants

{Total Coliform Bacteria}

Coliforms are bacteria which are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessments to identify problems and to correct any problems that were found during these assessments.

{Fecal Coliforms/E Coli.}

Fecal coliforms and E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, and people with severely compromised immune systems.

{Disinfection and Filtration (CT)}

Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

{Total Organic Carbon}

Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THM) and haloacetic acids (HAAs)**.** Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.

{Turbidity}

Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

{**Microcystins}**

Consuming water containing concentrations of microcystins over the action level may result in abnormal liver function, diarrhea, vomiting, nausea, numbness or dizziness. Children younger than school age, pregnant women, nursing mothers, the elderly, immune-compromised individuals, those with pre-existing liver conditions and those receiving dialysis treatment may be more susceptible than the general population to the health effects of microcystins.

B. Inorganic Contaminants

{Antimony}

Some people who drink water containing antimony well in excess of the MCL over many years could experience increases in blood cholesterol and decreases in blood sugar.

{Arsenic}

Some people who drink water containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer.

{Asbestos}

Some people who drink water containing asbestos in excess of the MCL over many years may have an increased risk of developing benign intestinal polyps.

{Barium}

Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.

{Beryllium}

Some people who drink water containing beryllium well in excess of the MCL over many years could experience intestinal lesions.

{Bromate}

Some people who drink water containing bromate in excess of the MCL over many years may have an increased risk of getting cancer.

{Cadmium}

Some people who drink water containing cadmium well in excess of the MCL over many years could experience kidney damage.

{Chloramines}

Some people who use water containing chloramines well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chloramines well in excess of the MRDL could experience stomach discomfort or anemia.

{Chlorite}

Some infants and young children who drink water containing chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia.

{Chromium}

Some people who drink water containing chromium well in excess of the MCL over many years could experience allergic dermatitis.

{Copper}

Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

{Cyanide}

Some people who drink water containing cyanide well in excess of the MCL over many years could experience nerve damage or problems with their thyroid.

{Fluoride}

Some people who drink water containing fluoride well in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Children may get mottled teeth.

{Lead}

Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

{Mercury}

Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.

{Nitrate}

Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.

{Nitrite}

Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.

{Selenium}

Selenium is an essential nutrient. However, some people who drink water containing selenium in excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation.

{Thallium}

Some people who drink water containing thallium well in excess of the MCL over many years could experience hair loss, changes in their blood, or problems with their kidneys, intestines or liver.

C. Radioactive Contaminants

{Beta/Photon emitters}

Certain minerals are radioactive and may emit forms of radiation known as photons and beta radiation. Some people who drink water containing beta and photon emitters in excess of the MCL over many years may have an increased risk of getting cancer.

{Alpha emitters}

Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.

{Combined Radium 226/228}

Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.

{Uranium}

Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.

D. Synthetic Organic Contaminants Including Pesticides and Herbicides

{2,4-D}

Some people who drink water containing the weed killer 2,4-K well in excess of the MCL over many years could experience problems with their kidneys, liver or adrenal glands.

{2,4,5-TP (Silvex)}

Some people who drink water containing Silvex in excess of the MCL over many years could experience liver problems.

{Acrylamide}

Some people who drink water containing high levels of acrylamide over a long period of time could have problems with their nervous system or blood, and may have an increased risk of getting cancer.

{Alachlor}

Some people who drink water containing alachlor in excess of the MCL over many years could have problems with

their eyes, liver, kidneys, or spleen, or experience anemia, and may have an increased risk of getting cancer.

{Atrazine}

Some people who drink water containing atrazine well in excess of the MCL over many years could experience problems with their cardiovascular system or reproductive difficulties.

{Benzo(a)pyrene (PAH)}

Some people who drink water containing benzo(a)pyrene in excess of the MCL over many years may experience reproductive difficulties and may have an increased risk of getting cancer.

{Carbofuran}

Some people who drink water containing carbofuran in excess of the MCL over many years could experience problems with their blood, or nervous or reproductive systems.

{Chlordane}

Some people who drink water containing chlordane in excess of the MCL over many years could experience problems with their liver or nervous system, and may have an increased risk of getting cancer.

{Dalapon}

Some people who drink water containing dalapon well in excess of the MCL over many years could experience minor kidney changes.

{Di (2-ethylhexyl) adipate}

Some people who drink water containing Di (2-ethylhexyl) adipate well in excess of the MCL over many years could experience toxic effects such as weight loss, liver enlargement or possible reproductive difficulties.

{Di (2-ethylhexyl) phthalate}

Some people who drink water containing di (2-ethylhexyl) phthalate well in excess of the MCL over many years may have problems with their liver, or experience reproductive difficulties, and may have an increased risk of getting cancer.

{Dibromochloropropane (DBCP)}

Some people who drink water containing DBCP in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.

{Dinoseb}

Some people who drink water containing dinoseb well in excess of the MCL over many years could experience reproductive difficulties.

{Dioxin (2,3,7,8-TCDD)}

Some people who drink water containing dioxin in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.

{Diquat}
Some people who drink water containing diquat in excess of the MCL over many years could get cataracts.

{Endothall}
Some people who drink water containing endothall in excess of the MCL over many years could experience problems with their stomach or intestines.

{Endrin}
Some people who drink water containing endrin in excess of the MCL over many years could experience liver problems.

{Epichlorohydrin}
Some people who drink water containing high levels of epichlorohydrin over a long period of time could experience stomach problems, and may have an increased risk of getting cancer.

{Ethylene dibromide}
Some people who drink water containing ethylene dibromide in excess of the MCL over many years could experience problems with their liver, stomach, reproductive system, or kidneys, and may have an increased risk of getting cancer.

{Glyphosate}
Some people who drink water containing glyphosate in excess of the MCL over many years could experience problems with their kidneys or reproductive difficulties.

{Heptachlor}
Some people who drink water containing heptachlor in excess of the MCL over many years could experience liver damage and may have an increased risk of getting cancer.

{Heptachlor epoxide}
Some people who drink water containing heptachlor epoxide in excess of the MCL over many years could experience liver damage, and may have an increased risk of getting cancer.

{Hexachlorobenzene}
Some people who drink water containing hexachlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys, or adverse reproductive effects, and may have an increased risk of getting cancer.

{Hexachlorocyclopentadiene}
Some people who drink water containing hexachlorocyclopentadiene well in excess of the MCL over many years could experience problems with their kidneys or stomach.

{Lindane}
Some people who drink water containing Lindane in excess of the MCL over many years could experience problems with their kidneys or liver.

{Methoxychlor}
Some people who drink water containing Methoxychlor in excess of the MCL over many years could experience reproductive difficulties.

{Oxamyl (Vydate)}
Some people who drink water containing oxamyl in excess of the MCL over many years could experience slight nervous system effects.

{PCBs (Polychlorinated biphenyls)}
Some people who drink water containing PBCs in excess of the MCL over many years could experience changes in their skin, problems with their thymus gland, immune deficiencies, or reproductive or nervous system difficulties, and may have an increased risk of getting cancer.

{Pentachlorophenol}
Some people who drink water containing pentachlorophenol in excess of the MCL over many years could experience problems with their liver or kidneys, and may have an increased risk of getting cancer.

{Picloram}
Some people who drink water containing picloram in excess of the MCL over many years could experience problems with their liver.

{Simazine}
Some people who drink water containing simazine in excess of the MCL over many years could experience problems with their blood.

{Toxaphene}
Some people who drink water containing toxaphene in excess of the MCL over many years could have problems with their kidneys, liver, or thyroid, and may have an increased risk of getting cancer.

E. Volatile Organic Contaminants

{Benzene}
Some people who drink water containing benzene in excess of the MCL over many years could experience anemia or a decrease in blood platelets, and may have an increased risk of getting cancer.

{Carbon Tetrachloride}
Some people who drink water containing carbon tetrachloride in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.

{Chlorobenzene}

Some people who drink water containing chlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys.

{o-Dichlorobenzene}

Some people who drink water containing o-dichlorobenzene well in excess of the MCL over many years could experience problems with their liver, kidneys, or circulatory systems.

{p-Dichlorobenzene}

Some people who drink water containing p-dichlorobenzene in excess of the MCL over many years could experience anemia, damage to their liver, kidneys, or spleen, or changes in their blood.

{1,2-Dichloroethane}

Some people who drink water containing 1,2-dichloroethane in excess of the MCL over many years may have an increased risk of getting cancer.

{1,1-Dichloroethylene}

Some people who drink water containing 1,1-dichloroethylene in excess of the MCL over many years could experience problems with their liver.

[Cis-1,2-Dichloroethylene}

Some people who drink water containing cis-1,2-dichloroethylene in excess of the MCL over many years could experience problems with their liver.

{trans-1,2-Dicholoroethylene}

Some people who drink water containing trans-1,2-dichloroethylene well in excess of the MCL over many years could experience problems with their liver.

{Dichloromethane}

Some people who drink water containing dichloromethane in excess of the MCL over many years could have liver problems and may have an increased risk of getting cancer.

{1,2-Dichloropropane}

Some people who drink water containing 1,2-dichloropropane in excess of the MCL over many years may have an increased risk of getting cancer.

{Ethylbenzene}

Some people who drink water containing ethylbenzene well in excess of the MCL over many years could experience problems with their liver or kidneys.

{Haloacetic Acids (HAA)}

Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

{Styrene}
Some people who drink water containing styrene well in excess of the MCL over many years could have problems with their liver, kidneys, or circulatory system.

{Tetrachloroethylene}
Some people who drink water containing tetrachloroethylene in excess of the MCL over many years could have problems with their liver, and may have an increased risk of getting cancer.

{1,2,4-Trichlorobenzene}
Some people who drink water containing 1,2,4-trichlorobenzene well in excess of the MCL over many years could experience changes in their adrenal glands.

{1,1,1-Trichloroethane}
Some people who drink water containing 1,1,1-trichloroethane in excess of the MCL over many years could experience problems with their liver, nervous system, or circulatory system.

{1,1,2-Trichloroethane}
Some people who drink water containing 1,1,2-trichloroethane well in excess of the MCL over many years could have problems with their liver, kidneys, or immune systems.

{Trichloroethylene}
Some people who drink water containing trichloroethylene in excess of the MCL over many years could experience problems with their liver and may have an increased risk of getting cancer.

{*Total Trihalomethanes (TTHM's)*}
Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems and may have an increased risk of getting cancer.

{Toluene}
Some people who drink water containing toluene well in excess of the MCL over many years could have problems with their nervous system, kidneys, or liver.

{Vinyl Chloride}
Some people who drink water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.

{Xylenes}
Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system.

F. Residual Disinfectants

{Total Chlorine}

Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in the excess of the MRDL could experience stomach discomfort.

{Chlorine Dioxide}

Some infants and young children who drink water containing chlorine dioxide in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorine dioxide in excess of the MRDL. Some people may experience anemia.

VIII. Appendix C: Certification Document

PWS ID:_____

CERTIFICATION THAT THE CCR WAS DISTRIBUTED

Mail a copy of your CCR and this form to Ohio EPA Central Office

Ohio EPA, DDAGW-Central Office, PO Box 1049, Columbus, OH 43216-1049

I hereby certify that the attached CONSUMER CONFIDENCE REPORT was distributed to all customers on the public water system and that the information is correct and consistent with the compliance monitoring data submitted to the Ohio EPA.

	Required methods of Distribution (Must be before July 1)	**Actual Methods of Distribution** *Fill in all appropriate blank(s)*
1a	**Paper Copy:** Mail or hand deliver a physical copy of the CCR to each customer (service connection)	Date(s) of ***mail and/or hand delivery***: _____
1b	**Or** **Electronic Delivery:** Date of distribution: _____ Direct Web Link Provided: _____ _____	**Or** ***Electronic CCR delivery*** with a paper CCR sent only on request. Check which of these methods for ***electronic delivery*** were used: ____ Mail : The link directly to the current CCR on the internet was mailed to each customer on a paper notice (water bill, insert, separate mailing, etc.) ***Attach sample notice or insert*** ____ Email: ***Attach sample email*** ____ CCR embedded in an email message; ____ CCR sent as an attachment to an email; ____ URL linked directly to the CCR sent via email
	One of the above methods for Direct Delivery must be used	
2	Make "Good Faith" efforts to reach non-bill paying consumers. (Check all that apply.)	____ Mail the CCR to postal patrons within the service area. (Attach zip codes used.) ____ Advertise availability of the CCR in news media. (Attach copy of the announcement.) ____ Publication of CCR in local newspaper (attach copy). ____ Post the CCR on the Internet (provide link) ____ Post the CCR in public places (attach a list of locations). ____ Deliver multiple copies to single bill addresses serving many people i.e. apt. bldgs, businesses, lg. private employers. ____ Other _____
3	Systems with a population of 100,000 or more must post the CCR on the internet.	Date CCR posted on the Internet:_____ Web site address: _____
4	Wholesalers	Date information was delivered to each community master metered public water system
5	Included public notification in CCR to satisfy a monitoring violation or the fluoride secondary MCL	Contaminant for which public notification was included _____ Date of violation _____

_____ _____

Signature of Responsible Official Name of Public Water System

_____ _____ _____ _____

Printed Name and Title of Responsible Official PWS ID. Contact Phone County

Email_____

Date_____

CCR For Calendar Year _____

01/30/2018

For OEPA Use Only
Date Received _____
Date Reviewed _____
Reviewed _____

Figure 11. Certification that the CCR was distributed.

IV. Appendix D: Example Consumer Confidence Report

City of Oakmount Water Department
Drinking Water Consumer Confidence Report for 2020

What's the source of your drinking water?

The City of Oakmount has prepared the following report to provide information to you, the consumer, on the quality of our drinking water. Included within this report is general health information, water quality test results, how to participate in decisions concerning your drinking water and water system contacts.

The City of Oakmount Water Department drinking water source is received from Morris Creek and Oakmount Reservoir. Water is drawn from Morris Creek at the Main Street Bridge and is pumped to the Oakmount Reservoir. The Oakmount Reservoir is located north of town off Johnson Road one mile east of State Route 66. Both of these surface water sources require extensive treatment prior to being used for drinking water.

Surface waters are by their nature susceptible to contamination. The City of Oakmount's drinking water source is susceptible to agricultural runoff, oil/gas wells, inadequate septic systems, leaking underground storage tanks, and road and rail crossings. As a result, the surface water supplied to our plant is considered to have a high susceptibility to contamination

Protecting our drinking water source from contamination is the responsibility of all area residents. Please dispose of hazardous chemicals in the proper manner and report polluters to the appropriate authorities. Only by working together can we ensure an adequate safe supply of water for future generations. More detailed information is provided in the City of Oakmount Drinking Water Source Assessment Report. For a copy of the complete report, please contact Mary Contrary at (513) 555-5555.

The City of Oakmount also has an emergency connection with the Washington County Water District which is only used when the Water Treatment Plant is not operating properly or during drought conditions. During 2020 we used 1.5 million gallons from this connection over two days on July 3rd and 4th. On average, this connection is used for approximately five days each year. This report does not contain information on the water quality received from the Washington County Water District, but a copy of their consumer confidence report can be obtained by contacting John McRight at (513)555-1234.

What are sources of contamination to drinking water?

The sources of drinking water; both tap water and bottled water include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the land surface or through the ground, it dissolves naturally occurring minerals and in some cases, radioactive material and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include: (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plant, septic systems, agricultural livestock operation, and wildlife; (B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from

urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; (C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses; (D) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban Storm water runoff, and septic systems; (E) radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).

Who needs to take special precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infection. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

About your drinking water

The EPA requires regular sampling to ensure drinking water safety. The City of Oakmount Water Department conducted sampling for bacteria, inorganic, radiological, and volatile organic contaminant sampling during 2020. Samples were collected for a total of 61 different contaminants most of which were not detected in the City of Oakmount water supply.

In 2020 we had an unconditioned license to operate our water system.

How to read the Water Quality Data Table: EPA establishes the safe drinking water regulations that limit the amount of contaminants allowed in drinking water. The table shows the concentrations of detected substances in comparison to regulatory limits. Substances that were tested for, but not detected, are not included in this table.

Listed below is information on those contaminants that were found in the City of Oakmount drinking water.

Contaminants (Units)	MCLG	MCL	Level Found	Range of Detections	Violation	Year Sampled	Typical Source of Contaminants
Microbiological Contaminants							
Turbidity (NTU)	NA	TT	4.97	0.2 - 4.97	NO	2020	Soil runoff.
Turbidity (% meeting standard)	NA	TT	92%	92%-100%	YES	2020	
Inorganic Contaminants							
Nitrate (ppm)	10	10	0.16	<0.05 - 0.16	NO	2020	Runoff from fertilizer use; Erosion of natural deposits.
Disinfection Byproducts							
TTHMs (ppb) [Total Trihalomethane]	N/A	80	67.3	28 - 120	NO	2020	Byproduct of drinking water chlorination.
HAA5 (ppb) [Haloacetic Acids]	N/A	60	41.2	39.0-44.5	NO	2020	Byproduct of drinking water chlorination.
Residual Disinfectants							
Total Chlorine (ppm)	MRDLG 4	MRDL 4	1.2	0.8-2.1	NO	2020	Water additive used to control microbes.
Lead and Copper							

Contaminants (Units)	Action Level (AL)	Individual Results over the AL	90% of test levels were less than	Violation	Year Sampled	Typical Source of Contaminants
Lead (ppb)	15	16 ppb, 17 ppb, 20 ppb	10	No	2020	Corrosion of household plumbing systems.
	3 out of 30 samples were found to have lead in excess of the lead AL of 15 ppb.					
Copper (ppm)	1.3	N/A	0.2	NO	2020	Corrosion of household plumbing systems.
	0 of 30 samples were found to have copper in excess of the copper AL of 1.3 ppm.					

Total Organic Carbon (TOC)						
MCL	**Minimum Ratio of % removal to required % removal**	**Level Found**	**Range of Monthly ratios**	**Violation**	**Year Sampled**	**Typical Source of Contaminants**
TT	1	2.16	1.73-2.82	NO	2020	Naturally present in the environment.

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. In (year of report) (Public water system) participated in the fourth round of the Unregulated Contaminant Monitoring Rule (UCMR 4).The following table contains information on contaminants that were detected during UCMR4 sampling. For a copy of all results please call _____ at _____.

TABLE OF UNREGULATED CONTAMINANTS

Contaminants (Units)	Sample Year	Average Level Found	Range of Detections	Sample Location
Manganese (ppb)	2020	0.624	0.45-0.88	Entry Point
Haloacetic Acids (HAA5) (ppb)	2020	55.1	41.2-65.3	Distribution
Haloacetic Acids (HAA9) (ppb)	2020	62.1	43.1-74.1	Distribution
Haloacetic Acids (HAA6Br) (ppb)	2020	57.3	42.1-67.3	Distribution

Turbidity is a measure of the cloudiness of water and is an indication of the effectiveness of our filtration system. The turbidity limit set by the EPA is 0.3 NTU in 95% of the samples analyzed each month, and shall not exceed 1 NTU at any time. As reported above the highest recorded turbidity result was 4.97 NTU and lowest monthly percentage of samples meeting the turbidity limit was 92% which resulted in a violation.

The value reported under "Level Found" for Total Organic Carbon (TOC) is the lowest running annual average ratio between the percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than one (1) indicates that the water system is in compliance with TOC removal requirements. A value of less than one indicates a violation of the TOC removal requirements. The value reported under the "Range" for TOC is the lowest monthly ratio to the highest monthly ratio.

The City of Oakmount Water Department failed to provide adequate filtration during the months of February and March, 2020and failed to provide adequate chlorination during the month of July, 2020. Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. The City of Oakmount Water Department has taken the following steps to correct this violation and prevent future violations form occurring: Modifications to operational procedures and treatment chemical dosages have been made that should ensure that future violations do not occur.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Oakmount Water Department is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may

wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 800-426-4791or at http://www.epa.gov/safewater/lead.

How do I participate in decisions concerning my drinking water?

Public participation and comment are encouraged at regular meetings of the City Council which meets monthly as announced in the Oakmount Times Recorder.

For more information on your drinking water, contact Joe Doe, Chief Operator at (614) 555-1234.

Definitions of some terms contained within this report.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Contaminant level (MCL): The highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Residual Disinfectant Level (MRDL): The highest residual disinfectant level allowed.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of residual disinfectant below which there is no known or expected risk to health.

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

Parts per Million (ppm) are units of measure for concentration of a contaminant. A part per million corresponds to one second in approximately 11.5 days.

Parts per Billion (ppb) are units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.

The “<” symbol: A symbol which means ‘less than’. A result of “<5” means that the lowest level detected was 5 and the contaminant in that sample was not detected.

N/A: not applicable