Massachusetts Department of Environmental Protection



Bureau of Water Resources – Drinking Water Program

Consumer Confidence Report Template

### 

It is strongly recommended that you consult *Appendix M: Consumer Confidence Reporting Guidelines* (the Guide) which is the official state document for CCR reporting. This guidecontains attachments on contaminants, certification forms, and other helpful aids. You can find these documents on the MassDEP Web site:

[https://www.mass.gov/lists/consumer-confidence-reporting-forms-templates](https://www.mass.gov/lists/consumer-confidence-reporting-forms-templates%20) .

MassDEP encourages all public water systems to use the Consumer Confidence Report (CCR) as a tool to educate customers about their efforts to provide safe drinking water.

If you follow the instructions noted in each section of this template, your report will be in compliance with the federal and state CCR requirements.

The template is a Microsoft Word document that can be downloaded. Follow the directions throughout the template, and delete the colored text when you insert your system's information. Once your data is input, review it for accuracy before you deliver.

* Instructional text in *[red italic brackets]* is required information. Delete this informational text after filling in your required information.
* Instructional text in *{blue italic brackets}* is recommended or optional information. Delete this informational text after filling in any information.

The information that is required for each CCR falls into the following sections within this template. In each of the sections you will find explanations of what you need to report. Much of the related information you need is found in *Appendix M: Consumer Confidence Reporting Guidelines* (the Guide) and attachments. You will find references to these sections for additional information.

[I. PUBLIC WATER SYSTEM INFORMATION 1](#_Toc241993604)

[2. YOUR DRINKING WATER SOURCE 1](#_Toc241993605)

[3. SUBSTANCES FOUND IN TAP WATER 1](#_Toc241993606)

[4. IMPORTANT DEFINITIONS 1](#_Toc241993607)

[5. WATER QUALITY TESTING RESULTS 1](#_Toc241993608)

[6. COMPLIANCE WITH DRINKING WATER REGS 1](#_Toc241993609)

[7. EDUCATIONAL INFORMATON 1](#_Toc241993610)

[8. ADDITIONAL INFORMATION 1](#_Toc241993611)

**Before July 1:**

Distribute the CCR to your customers (by mailing, emailing, publishing, posting, and any other required methods).

Submit a copy of the CCR, the CCR certification form, and supporting documentation to MassDEP Boston, your local health board, and the MA Department of Public Health.

|  |
| --- |
| *[Year]* Consumer Confidence Report |
| **For** |
| *[PWS Name]* |
| *[City/Town*], Massachusetts |
| MASSDEP PWSID # *[XXXXXXX*] |

This report is a snapshot of the drinking water quality that we provided last year. Included are details about where your water comes from, what it contains, and how it compares to state and federal standards. We are committed to providing you with this information because informed customers are our best allies.

## PUBLIC WATER SYSTEM INFORMATION

|  |  |
| --- | --- |
| Address**: *[****system**address****]*** | |
| Contact Person: *[system contact person name for further information****]*** | |
| Telephone #: *[system phone#]* | email *{insert email address****}*** |
| Internet Address: ***{****insert system web address if available****}*** | |

**Water System Improvements**

Our water system is routinely inspected by the Massachusetts Department of Environmental Protection (MassDEP). MassDEP inspects our system for its technical, financial, and managerial capacity to provide safe drinking water to you. To ensure that we provide the highest quality of water available, your water system is operated by a Massachusetts certified operator who oversees the routine operations of our system. As part of our ongoing commitment to you, last year we made the following improvements to our system: [Insert a statement on your system’s response to the latest Sanitary Survey findings. Describe what your system did to eliminate any deficiencies during the reporting year, or otherwise describe any other system improvements.]

**Opportunities for Public Participation**

If you would like to participate in discussions regarding your water quality, you may attend the following meetings or educational events: [Insert information about opportunities for public participation in meetings and educational events including dates, times and locations].

## YOUR DRINKING WATER SOURCE

**Where Does My Drinking Water Come From?**

Your water is provided by the following sources listed below:

[Insert information about the source(s) of your drinking water including: # of sources, common name of source, MassDEP source ID# (refer to your sample schedule for source #s), type of water (groundwater or surface water), and physical location of sources. Add or delete as many lines as required. Remember to delete examples below from your table.]

|  |  |  |  |
| --- | --- | --- | --- |
| Source Name | MassDEP Source ID# | Source Type | Location of Source |
| Well #1 | 5054003-01G | Groundwater | Northwesterly corner of the building |
| Smith Street Well | 5054003-02G | Groundwater | Smith Street |
|  |  |  |  |

**Is My Water Treated?**

{*Insert information on treatment or delete this section if not used. MassDEP encourages all systems to include information on water treatment practices.}*

*{The following are some examples of treatment statements that you may use. Modify/Add treatment information that is applicable to your system. Delete all that do not apply.}*

Our water system makes every effort to provide you with safe and pure drinking water. To improve the quality of the water delivered to you, we treat it to remove several contaminants.

{Some Optional Examples:}

* We add a disinfectant to protect you against microbial contaminants.
* We filter the water to remove small particles and organisms such as sediment, algae and bacteria.
* We chemically treat the water to reduce lead and copper concentrations.
* We add fluoride to the water to aid in dental health and hygiene.
* We aerate and/or filter the water to remove volatile organic contaminants.
* We aerate the water to reduce radon concentrations.
* We chemically treat the water to reduce levels of iron and manganese.
* We filter the water to remove uranium and other naturally occurring radionuclides.
* We filter the water to remove arsenic.

The water quality of our system is constantly monitored by us and MassDEP to determine the effectiveness of existing water treatment and to determine if any additional treatment is required.

**{**Optional-insert a statement if your system **does not** treat the water-such as:}

Our water system makes every effort to provide you with safe and pure drinking water. We are pleased to report that your water does not need to be treated at this time to meet these goals. The water quality of our system is constantly monitored by us and MassDEP to determine if any future treatment may be required.

**{**Optional-insert a statement if your system is working on the installation of treatment -such as:}

Our water system makes every effort to provide you with safe and pure drinking water. The water quality of our system is constantly monitored by us and MassDEP to determine if any treatment may be required.

Prior water quality test results show that the water needs to be treated to continue to meet these goals. To improve the quality of the water, our system is working on the installation of treatment to *[reduce or remove\_\_\_\_\_\_\_\_\_\_\_].* We expect this treatment to be on-line and operational by *[date].*

**How Are These Sources Protected?**

[You must include information on your system’s susceptibility ranking and where your consumers can get a copy of the SWAP report. See the guide – for more information.]

MassDEP has prepared a Source Water Assessment Program (SWAP) Report for the water supply source(s) serving this water system. The SWAP Report assesses the susceptibility of public water supplies.

**What is My System’s Ranking?**

A susceptibility ranking of *[high, moderate, low]* was assigned to this system using the information collected during the assessment by MassDEP.

**Where Can I See The SWAP Report?**

The complete SWAP report is available at [the water department, board of health, or other location] and online at [https://www.mass.gov/service-details/the-source-water-assessment-protection-swap-program](https://www.mass.gov/service-details/the-source-water-assessment-protection-swap-program%20) . For more information, call [water system contact and phone number].

**{**Optional info below. It is recommended to highlight significant sources of contamination, and include a brief summary of the water system’s susceptibility to potential sources of contamination. Consider adding recommended information referenced in the source protection section of the guide.}

**What Are the Key Issues For Our Water Supply?**

The SWAP Report notes the key issues of *{key issues from the discussion section of the SWAP Report}* in the water supply protection area for source(s) *{names}.* The report commends our water system on *{existing source protection measures}.*

**What Can Be Done To Improve Protection?**

The SWAP report recommends:

* *{Key recommendation}.*
* *{Key recommendations}.*

Our public water system plans to address the protection recommendations by:

* *{PWS plans}*
* *{PWS plans}.*

Residents can help protect sources by:

{Some Examples:}

* Practicing good septic system maintenance
* Supporting water supply protection initiatives at the next town meeting
* Taking hazardous household chemicals to hazardous materials collection days
* Contacting the water department or Board of Health to volunteer for monitoring or education outreach to schools
* Limiting pesticide and fertilizer use, etc.

## SUBSTANCES FOUND IN TAP WATER

[Insert all of the following required language below.]

Sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land 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:

**Microbial contaminants** -such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

**Inorganic contaminants** -such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, and farming.

**Pesticides and herbicides** -which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

**Organic chemical contaminants** -including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

**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, the Department of Environmental Protection (MassDEP) and U.S. Environmental Protection Agency (EPA) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and Massachusetts Department of Public Health (DPH) regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

All 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 emailing the EPA at [safewater@epa.gov](mailto:safewater@epa.gov).

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 some infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control and Prevention (CDC) guidelines on lowering the risk of infection by cryptosporidium and other microbial contaminants are available by emailing the EPA at [safewater@epa.gov](mailto:safewater@epa.gov).

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. [Insert the name of your utility] 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 or at <http://www.epa.gov/safewater/lead>.

## IMPORTANT DEFINITIONS

[Insert the following definitions as applicable. The definitions should relate to the contaminants reported in your water quality tables or terms referenced elsewhere in the report. Refer to the Regulated Contaminants table found in the Guide for a complete list of contaminants with MCLs, MRDLs, Treatment Techniques (TTs,) and Action Levels (ALs). Delete all definitions that do not apply to your system.]

[Insert MCL & MCLG definitions as they will most likely be used in your tables.]

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

**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.

[Insert these definitions when they are used in your tables.]

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

**90th Percentile** – Out of every 10 homes sampled, 9 were at or below this level.

**Secondary Maximum Contaminant Level (SMCL)** – These standards are developed to protect the aesthetic qualities of drinking water and are not health based.

**Unregulated Contaminants**

Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.

**Massachusetts Office of Research and Standards Guideline (ORSG)** – This is the concentration of a chemical in drinking water, at or below which, adverse health effects are unlikely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.

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

**Running Annual Average (RAA)** – The average of four consecutive quarter of data.

**Maximum Residual Disinfectant Level (MRDL) --** The highest level of a disinfectant (chlorine, chloramines, chlorine dioxide) allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Maximum Residual Disinfectant Level Goal (MRDLG)** -- The level of a drinking water disinfectant (chlorine, chloramines, chlorine dioxide) below which there is no known expected risk to health.

MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

**Level 1 Assessment** - A Level 1 assessment is a study of the water system to identify 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 an *E. coli* MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

[Define **all** acronyms used in your report, such as the ones below or others that you use:**]**

ppm = parts per million, or milligrams per liter (mg/l)

ppb = parts per billion, or micrograms per liter (ug/l)

ppt = parts per trillion, or nanograms per liter

pCi/l = picocuries per liter (a measure of radioactivity)

NTU = Nephelometric Turbidity Units

ND = Not Detected

N/A = Not Applicable

mrem/year = millimrems per year (a measure of radiation absorbed by the body)

## WATER QUALITY TESTING RESULTS

[Include in your tables ALL regulated and unregulated contaminant detections reported to MassDEP by routine or special monitoring. You must report the results for each detection (above the lab’s detection level), even if your results are in compliance with MCLs or ALs. If you did not sample for a specific contaminant in this current calendar year but had a detect for it in the previous 5 years you must still report the last detect available.

Use as many lines or tables as needed in your report. See the Guide for contaminant tables.]

[NOTE: A detected contaminant is any contaminant observed at or above its laboratory minimum detection level (MDL). If the contaminant is reported by the laboratory as less than (<) the MDL, not-detected (ND) or otherwise below the detection limit (BDL), that contaminant is not required to be included within the report.]

**What Does This Data Represent?**

The water quality information presented in the table is from the most recent round of testing done in accordance with the regulations. All data shown was collected during the last calendar year unless otherwise noted in the table.

*[If your system has a waiver for any contaminant group, such as VOCs, SOCs, IOC, or perchlorate and is not required to monitor regularly, include the following statement.]*

MassDEP has reduced the monitoring requirements for *[insert name of contaminant group(s): volatile organic contaminants, inorganic contaminants, synthetic organic contaminants, perchlorate]* because the source is not at risk of contamination. The last sample collected for these contaminants was taken on *[insert date(s)]* and was found to meet all applicable US EPA and MassDEP standards.

*[If reporting* ***lead*** *or* ***copper*** *detections; use the table below. If no detects for the year were found delete the table.]*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | Date(s) Collected | 90TH percentile | Action Level | MCLG | # of sites sampled | # of sites above Action Level | Possible Source of Contamination |
| Lead (ppb) |  |  | 15 | 0 |  |  | Corrosion of household plumbing systems; Erosion of natural deposits |
| Copper (ppm) |  |  | 1.3 | 1.3 |  |  | Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives |

* [For specific information on reporting your lead and copper sampling results, you may refer to your Lead and Copper Review Summary Sheets available from your MassDEP Regional Office. Report the results of your lead and copper sampling rounds for the calendar year.]
* [For any violations, including failure to meet corrosion control treatment, source water treatment or lead service requirements you must include the health effects statement listed for that contaminant, an explanation of the violation/exceedance, and actions taken to address the violation. Refer to the ‘Compliance with Drinking Water Regulations’ section of this template for violation examples and required health statements.]

*[With the advent of the* ***RTCR****, you do not need to report every bacti detection as you had to before. Coliform detections will trigger assessments and assessments must be reported in the CCR. You must also report coliform (TT violations) and E coli violations. When there is a violation, you must report the detects in a table.*

*Systems report assessment information and violations. If the system reports Level 1 or 2 Assessments in their CCR, they must define these in their definition section.]*

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

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

*[Any system required to comply with the Level 1 or Level 2 Assessment requirement that is* ***not*** *due to an E.coli MCL violation must include the following text in the CCR.]*

--a

Coliforms are bacteria that 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 any problems that were found during these assessments.

*[For a Level 1 Assessment add:]*

During the past year, we were required to conduct [*insert number*] Level 1 Assessments. [*Insert number*] Level 1 Assessments were completed. In addition, we were required to take [*insert number*] corrective actions and we have and we have completed [*insert number*] of these actions.

*[For a Level 2 Assessment add:]*

During the past year [*insert number*] Level 2 Assessments were required to be completed for our water system. [*Insert number*] Level 2 Assessments were completed. In addition, we were required to take [*insert number*] corrective actions and we competed [*insert number*] of these actions.

*[Any system that has failed to complete all the required assessments or correct all identified sanitary defects, is in violation of the treatment technique requirement and must also include one or both of the following statements, as appropriate:]*

During the past year we failed to conduct all of the required assessments.

*[and/or]*

During the past year we failed to correct all identified defects that were found during the assessments.

*[Any system required to conduct a Level 2 Assessment due to an* ***E.coli MCL violation*** *must include in the report the following text:]*

*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.

We were required to complete a Level 2 assessment because we found *E. coli* in our water system. In addition, we were required to take *[insert number]* corrective actions and we completed *[insert number]* of these actions.

*[Any system that has failed to complete the required assessment or correct all identified sanitary defects, is in violation of the treatment technique (TT) requirement and must also include one or both of the following statements, as appropriate:]*

We failed to conduct the required assessment.

We failed to correct all sanitary defects that were identified during the assessment we conducted.

*[If a system detects E. coli and has violated the E.coli MCL, in addition to completing a table for E. coli, the system must include one or more of the following statements to describe any 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 any repeat sample tests positive for total coliform.

*{If a system detects E. coli and has* ***not*** *violated the E. coli MCL, in addition to completing a table for E. coli in the CCR, 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.}*

*[If reporting bacteria detections; use one of the tables below. Delete tables or lines that do not apply.]*

| Bacteria | **MCL / TT** | **MCLG** | **Value** | **Date** | **Violation (Y/N)** | **Possible Sources** |
| --- | --- | --- | --- | --- | --- | --- |
| E. coli | MCL | 0 | Positive  (*E. coli)* |  |  | Human and animal fecal waste |
| [tell why it was a violation] | | | | | | |

| Bacteria | **MCL / TT** | **MCLG** | **Value** | **Date** | **Violation (Y/N)** | **Possible Sources** |
| --- | --- | --- | --- | --- | --- | --- |
| Total Coliform Bacteria |  | 0 | Positive |  |  | Human and animal fecal waste |
| [tell why it was a violation] | | | | | | |

*{You may go to EPA’s* [*https://www.epa.gov/sites/production/files/2015-10/documents/rtcrimplementation\_guidance.pdf*](https://www.epa.gov/sites/production/files/2015-10/documents/rtcrimplementation_guidance.pdf)*; page 69 for CCR requirements and page 115 to find specific scenarios that can fit your situation and tailor them to fir your own situation.}*

[For any **violations**, you must include the health effects statement for that contaminant, an explanation of the violation/exceedance, and actions taken to address the violation. Refer to the ‘Compliance with Drinking Water Regulations’ section of this template for violation examples and required health statements.]

*[If required to collect* ***turbidity*** *information; use one of the tables below – delete all tables that do not apply.*

*When reported as a MCL for systems that must install filtration but have not, include the highest monthly average for turbidity measurements collected during the last calendar year in the table below.]*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **MCL** | Highest Monthly Average | Violation (Y/N) | Possible Source of Contamination |
| Turbidity (NTU) | 5 |  |  | Soil runoff |

[When turbidity is reported as a Treatment Technique (TT) for systems that meet the criteria for avoiding filtration, include the highest single measurement found in any month. You must also explain the reasons for measuring turbidity, which has been included in the chart.]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **TT** | Highest Detected  Daily Value | Violation (Y/N) | **Possible Source of Contamination** |
| Turbidity (NTU) | 5 |  |  | Soil runoff |
| Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. | | | | |

[When turbidity is reported as a Treatment Technique (TT) for systems that filter and use turbidity as an indicator of filtration performance, include the highest single measurement and the lowest monthly percentage of samples meeting the turbidity limits specified in 310 CMR 22.20 for the relevant filtration technology during the last calendar year. You must also explain the reasons for measuring turbidity, which has been included in the chart.]

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Turbidity | TT | Lowest Monthly % of Samples | Highest Detected Daily Value | Violation (Y/N) | Possible Source of Contamination |
| Daily  Compliance (NTU) | 5 | **-----** |  |  | Soil runoff |
| Monthly Compliance\* | At least 95% |  | **-----** |  |  |
| Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality. | | | | | |
| \*Monthly turbidity compliance is related to a specific treatment technique (TT). Our system filters the water so at least 95% of our samples each month must be below the turbidity limits specified in the regulations. | | | | | |

[For any **violations**, you must include the health effects statement for that contaminant, an explanation of the violation/exceedance, and actions taken to address the violation. Refer to the ‘Compliance with Drinking Water Regulations’ section of this template for violation examples and required health statements.]

*[Use the following table to report the most recent contaminant detections (within the last 5 years) for* ***all regulated compounds*** *listed in the Guide.]*

[The Guide contains information on appropriate units of measure, conversion factors, source information, health effects statements and a list of regulated and unregulated contaminants to be reported]

* Be sure to convert any decimal MCL/MCLG or MRDL /MRDLG to a whole number (and also convert your results) for each contaminant within your table.
* Report the results in the same units as the MCL/MCLG and MRDL /MRDLG.
* Add/delete as many lines as needed in your table and delete any contaminants that were not detected in your table.
* Where certain columns are not applicable to a specific contaminant, place dashes --- or N/A within the column or delete the column. (If you use N/A make sure it is included in your definitions section).
* If the sample was taken prior to the last calendar year, you must include the collection date of the sample in the table].

[When to use - ‘Highest Result or Average Detected’ ‘Range Detected’ columns.]

* *One sample site and*
  + *One sample date: report the highest result detected used to determine compliance.*
  + *Multiple sampling dates (averaging compliance): report the highest running annual average and the range of detects of the samples taken when an average or confirmation sample is used to determine MCL/MRDL compliance.*
* *Multiple sampling sites and* 
  + *One sample date: report the highest result detected and the range of detects.*
* *Multiple sampling sites and multiple sampling dates (when a running annual average is used to determine MCL/MRDL compliance):* 
  + *Source Specific Samples-report the highest running annual average, calculated by individual source, during the last calendar year used to determine MCL/MRDL compliance and the range detected of all sources.*
  + *Distribution Samples-report the highest running annual average, calculated by combined sites, during the last calendar year used to determine MCL/MRDL compliance and the range of all sample sites. (This includes TTHMs and HAAs).*

*{Refer to the Guide – How to Report Monitoring Data for examples on reporting monitoring results. Delete all contaminants from the table for which detections are not being reported.}*

| Regulated Contaminant | Date(s) Collected | Highest Result or Highest Running Average Detected | Range Detected | MCL  or  MRDL | MCLG or MRDLG | Violation (Y/N) | Possible Source(s) of Contamination |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Inorganic Contaminants** | | | | | | | |
| Antimony (ppb) |  |  |  | 6 | 6 |  | Discharge from fire retardants; ceramics; electronics; solder |
| Arsenic (ppb) |  |  |  | 10 | N/A |  | 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 electrical, aerospace, and defense industries; erosion of natural deposits |
| Bromate (ppb) |  |  |  | 10 | 0 |  | By-product of drinking water disinfection |
| Cadmium (ppb) |  |  |  | 5 | 5 |  | Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints |
| Chromium (ppb) |  |  |  | 100 | 100 |  | Discharge from pulp mills; erosion of natural deposits |
| Cyanide (ppb) |  |  |  | 200 | 200 |  | Discharge from 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 |
| ■ Fluoride also has a secondary contaminant level (SMCL) of 2 ppm. | | | | | | | |
| Mercury (ppb) |  |  |  | 2 | 2 |  | Erosion of natural deposits; discharge from refineries and factories; runoff from landfills; runoff from cropland |
| 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 |
| Perchlorate (ppb) |  |  |  | 2 | N/A |  | Rocket propellants, fireworks, munitions, flares, blasting agents |
| PFAS6 (ppt) |  |  |  | 20 | N/A |  | Discharges and emissions from industrial and manufacturing sources associated with the production or use of these PFAS, including production of moisture and oil resistant coatings on fabrics and other materials. Additional sources include the use and disposal of products containing these PFAS, such as fire-fighting foams. |
| Selenium (ppb) |  |  |  | 50 | 50 |  | Discharge from 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** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 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=5% | 0 |  | Added to water during sewage/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 (ppt) |  |  |  | 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 |
| 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 (DBCP) (ppt) |  |  |  | 200 | 0 |  | Runoff/leaching from soil fumigant used on soybeans, cotton, 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=1% | 0 |  | Discharge from industrial chemical factories; an impurity of some water treatment chemicals |
| Ethylene dibromide (EDB) (ppt) |  |  |  | 20 | 0 |  | Residue of leaded gasoline or runoff from soil fumigant used on tobacco or strawberries |
| 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 |
| Polychlorinated biphenyls (PCBs) (ppt) |  |  |  | 500 | 0 |  | Runoff from landfills; discharge of waste chemicals; residue of banned use in electrical transformers |
| Pentachlorophenol (ppb) |  |  |  | 1 | 0 |  | Discharge from wood preserving factories |
| Picloram (ppb) |  |  |  | 500 | 500 |  | Runoff from herbicide use |
| Simazine (ppb) |  |  |  | 4 | 4 |  | Runoff from herbicide use |
| Toxaphene (ppb) |  |  |  | 3 | 0 |  | Runoff/leaching from insecticide used on cotton and cattle |
| **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 and agricultural chemical factories |
| o-Dichlorobenzene (ppb) |  |  |  | 600 | 600 |  | Discharge from industrial chemical factories |
| p-Dichlorobenzene (ppb) |  |  |  | 5 | 5 |  | 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 |  | Breakdown product of trichloroethylene and tetrachloroethylene |
| 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 |  | Leaks and spills from gasoline and petroleum storage tanks |
| Styrene (ppb) |  |  |  | 100 | 100 |  | Discharge from rubber and plastic factories; leaching from landfills |
| Tetrachloroethylene (PCE) (ppb) |  |  |  | 5 | 0 |  | Discharge from factories and dry cleaners; residual of vinyl-lined water mains |
| 1,2,4-Triclorobenzene (ppb) |  |  |  | 70 | 70 |  | Discharge from textile-finishing factories |
| 1,1,1-Trichloroethane (ppb) |  |  |  | 200 | 200 |  | Discharge from use in septic system cleaners |
| 1,1,2-Trichloroethane (ppb) |  |  |  | 5 | 3 |  | Discharge from industrial chemical factories |
| Trichloroethylene (TCE) (ppb) |  |  |  | 5 | 0 |  | Discharge from metal degreasing sites and other factories |
| Toluene (ppm) |  |  |  | 1 | 1 |  | Leaks and spills from gasoline and petroleum storage tanks; discharge from petroleum factories |
| Vinyl Chloride (ppb) |  |  |  | 2 | 0 |  | Leaching from PVC piping; discharge from plastics factories |
| Xylenes (ppm) |  |  |  | 10 | 10 |  | Leaks and spills from gasoline and petroleum storage tanks; discharge from petroleum factories; discharge from chemical factories |
| **Radioactive Contaminants** | | | | | | | |
| Gross Alpha (pCi/l)  (minus uranium) |  |  |  | 15 | 0 |  | Erosion of natural deposits |
| GrossBeta/photon emmiters (pCi/L) ▲ |  |  |  | 50 | 0 |  | Decay of natural and man-made deposits |
| ▲The MCL for beta particles is 4 mrem/year. EPA considers 50 pCi/L to be the level of concern for beta particles. | | | | | | | |
| Radium 226 & 228 (pCi/L) (combined values) |  |  |  | 5 | 0 |  | Erosion of natural deposits |
| Uranium (ppb) |  |  |  | 30 | 0 |  | Erosion of natural deposits |
| **Disinfectants and Disinfection By-Products** | | | | | | | |
| Total Trihalomethanes (TTHMs) (ppb) | Quarterly in (year) | Highest quarterly running annual average | Range | 80 | N/A |  | Byproduct of drinking water chlorination |
| Haloacetic Acids (HAA5) (ppb) | Quarterly in (year) | Highest quarterly running annual average | Range | 60 | N/A |  | Byproduct of drinking water disinfection |
| Chlorine (ppm)  (free, total or combined) | Monthly in (year) | Highest quarterly running annual average | Range | 4 | 4 |  | Water additive used to control microbes |
| Bromate (ppb) | Monthly in (year) | Highest quarterly running annual average | Range | 10 | 0 |  | Byproduct of drinking water disinfection |
| Chlorite (ppm) | Monthly in (year) | Highest Monthly 3-Sample Set Average | Range | 1 | 0.8 |  | Byproduct of drinking water disinfection |
| Chlorine dioxide (ppb) | Monthly in (year) | Highest individual sample result | Range | 800 | 800 |  | Water additive used to control microbes |
| Chloramines (ppm) | Monthly in (year) | Highest individual sample result |  | 4 | 4 |  | Water additive used to control microbes |

{If your system experienced a chlorine dioxide violation, you must include the following statement :}

Compliance with the MRDL for chlorine dioxide is based on consecutive daily samples. Our system had [number] MRDL violations in [year].

Unregulated and Secondary Contaminants

*[Report the most recent contaminant detections (within the last 5 years) for* ***unregulated compounds.*** *Include any UCMR detects but only for the current year. See the unregulated table below on how to report them.]*

[Refer to the Guide for additional listings of unregulated and secondary contaminants that are required to be reported if detected in the finished water. Some common contaminants are listed in the charts below. Note in addition to reporting finished water detections, if cryptosporidium is detected in the raw water it is required to be reported.]

{Optional-**secondary contaminants** are not required to be reported, unless they are specifically scheduled for testing, as listed on your MassDEP water quality sampling schedule.. (If you choose to include secondary contaminants within your report, you must use a separate table; see table below on how to report them.

* *SMCL or ORSG information is not required to be reported in the table, however if you choose to include this information please refer to the Guide-or the ORS Standards and Guidelines for Contaminants in Massachusetts Drinking Water at:* [*http://www.mass.gov/eea/agencies/massdep/water/drinking/standards/standards-and-guidelines-for-drinking-water-contaminants.html*](http://www.mass.gov/eea/agencies/massdep/water/drinking/standards/standards-and-guidelines-for-drinking-water-contaminants.html)*.*
* *Health effects statements are not required to be reported for unregulated contaminants, however, if your system reports detections that are near or above a standard, it is recommended to include some health effect information in the ‘Education Information’ section of the template. Suggested health effect and source information for unregulated contaminants can be found in the Guide.*

*Note that manganese testing is mandatory for all PWSs and any detections over 50 ug/L must be listed in the CCR. Any detections over 300 ug/L must also have the required educational statements. Please refer to the Guide.*

* Include a brief explanation for the reason for monitoring of these contaminants, such as below.

Unregulated contaminants are those for which there are no established drinking water standards. The purpose of unregulated contaminant monitoring is to assist regulatory agencies in determining their occurrence in drinking water and whether future regulation is warranted.

| Unregulated Contaminants | Date(s) Collected | Result or Range Detected | Average Detected | SMCL | ORSG | Possible Source |
| --- | --- | --- | --- | --- | --- | --- |
| Acetone (ppm) |  |  |  |  | 6.3 | Discharge from industrial production and use, in automobile exhaust, from landfills and natural sources |
| Aldicarb (ppb) |  |  |  |  | 3 | Run-off from use as a pesticide |
| Aldicarb sulfone (ppb) |  |  |  |  | 2 | Degraded from aldicarb by plants |
| Aldicarb sulfoxide (ppb) |  |  |  |  | 4 | Degraded from aldicarb by plants |
| Aldrin |  |  |  |  | N/A | Run-off from insecticide use |
| Alpha-hexachlorocyclohexane (ppt) |  |  |  |  | 6 | Though not produced in the U.S. since 1976, alpha-hexachlorocyclohexane is imported for use as an insecticide and prescription medicine for mites and head lice. Due to its persistence in the environment, it may also be found in soil and surface water at hazardous waste sites. |
| Anatoxin-a |  |  |  |  | N/A | Certain algal blooms |
| 4-androstene-3,17-dione |  |  |  |  | N/A | N/A |
| Bromobenzene |  |  |  |  | N/A | Discharge from use in chemical manufacturing |
| Bromomethane (ppb) |  |  |  |  | 10 | Run-off from use as a fumigant |
| Bromodichloromethane |  |  |  |  | N/A | Trihalomethane; by-product of drinking water chlorination |
| Bromochloromethane (Halon 1001) (ppb) |  |  |  |  | 90 | Used as a fire-extinguishing fluid, an explosive suppressant, and as a solvent in the manufacturing of pesticides |
| Bromoform |  |  |  |  | N/A | Trihalomethane; by- product of drinking water chlorination |
| Butachlor |  |  |  |  | N/A | Run-off from use as a herbicide |
| 1,3 Butadiene (ppt) |  |  |  |  | 10 to  1,000 | Used in rubber manufacturing and occurs as a gas |
| 1-butanol (ppb) |  |  |  |  | 700 | Industrial intermediate; solvent for paints, lacquers and varnishes, natural and synthetic resins, gums, vegetable oils, dyes and alkaloids, cosmetic products; food flavoring substance. |
| Butylbenzene isomers (n;sec;tert) |  |  |  |  | N/A | Run-off from industrial use |
| Butylated hydroxyanisole |  |  |  |  | N/A | Antioxidant and preservative in food, food packaging, animal feed, cosmetics, rubber, petroleum products and medicine. |
| Carbaryl |  |  |  |  | N/A | Run-off from use as an insecticide |
| Chlorpyrifos (ppb) |  |  |  |  | 2 | Deposition and run-off from pesticide application |
| Chlorate (ppb) |  |  |  |  | 210 | Agricultural defoliant or desiccant; disinfection byproduct; and used in production of chlorine dioxide |
| Chlorodifluoromethane  (HCFC-22) |  |  |  |  | N/A | Occurs as a gas, and used as a refrigerant, a low-temperature solvent, and in fluorocarbon resins |
| Chloroethane |  |  |  |  | N/A | Discharge from industrial uses |
| Chloroform (ppb) |  |  |  | N/A | 70 | By-product of drinking water chlorination (In non-chlorinated sources it may be naturally occurring) |
| Chloromethane  (methyl chloride) (ppt) |  |  |  |  | 2,690 to 269,000 | Discharge from industrial uses |
| o-Chlorotoluene |  |  |  |  | N/A | Discharge from industrial use |
| Chromium-6 |  |  |  |  | N/A | Discharge from steel and pulp mills; Erosion of natural deposits |
| Cobalt |  |  |  |  | 70 ppb | Naturally-occurring element found in the earth’s crust and at low concentrations in seawater, and in some surface and ground water; cobaltous chloride was formerly used in medicine and as a germicide |
| Cylindrospermopsin |  |  |  |  | N/A | Certain algal blooms |
| Dibromodichloromethane |  |  |  | N/A | N/A | Trihalomethane; By-product of drinking water chlorination |
| Dicamba |  |  |  |  | N/A | Run-off from use as a herbicide |
| m-Dichlorobenzene |  |  |  |  | N/A | Discharge from use in chemical manufacturing |
| Dichlorodifluoromethane  (Freon 12) (ppm) |  |  |  |  | 1.4 | Discharge from use as a refrigerant |
| 1,1-Dichloroethane1 (ppb) |  |  |  |  | 70 | Discharge from use as a degreasing agent |
| 2,2-Dichloropropane |  |  |  |  | N/A | Discharge from use in chemical manufacturing |
| 1,3-Dichloropropane |  |  |  |  | N/A | Discharge from use in chemical manufacturing |
| 1,1-Dichloropropene |  |  |  |  | N/A | Discharge from use in chemical manufacturing |
| 1,3-Dichloropropene  (cis,trans) (ppt) |  |  |  |  | 400 | Run-off from use as a nematocide |
| Dieldrin |  |  |  |  | N/A | Run-off from pesticide application |
| Dimethipin (ppt) |  |  |  |  | 140 | Deposition and run-off from use as a defoliant and herbicide |
| 1,4-Dioxane (ppb) |  |  |  |  | 0.3 | Discharge from chemical manufacturing and landfills |
| Enteroviruses |  |  |  |  | N/A | N/A |
| Equilin (ppt) |  |  |  |  | 350 | N/A |
| 17-β-estradiol (ppq) |  |  |  |  | 900 to 90,000 | Estrogenic hormone naturally produced in the human body; and used in pharmaceuticals |
| Estriol  16-α-hydroxyestradiol (ppt) |  |  |  |  | 350 | Estrogenic hormone naturally produced in the human body; and used in veterinary and human pharmaceuticals |
| Estrone (ppt) |  |  |  |  | 350 | Estrogenic hormone naturally produced in the human body; and used in veterinary and human pharmaceuticals |
| Ethoprop (ppb) |  |  |  |  | 1.14 | Deposition and runoff from insecticide application |
| Ethylene glycol (ppm) |  |  |  |  | 14 | Run-off from use as a deicing chemical; discharge from antifreeze and industrial solvents |
| 17-α-ethynylestradiol (ethinyl estradiol) (ppt) |  |  |  |  | 350 | Synthetic steroid; prepared from estrone |
| Germanium |  |  |  |  | N/A | Erosion of natural deposits; also commonly found in phosphors, transistors and diodes and in electroplating |
| HAA5 (ppb) |  |  |  |  | 60 | Disinfection byproduct |
| HAA6Br, HAA9 |  |  |  |  |  | Disinfection byproduct |
| Hexachlorobutadiene |  |  |  |  | N/A | Discharge from use as an industrial solvent |
| 3-Hydroxycarbofuran |  |  |  |  | N/A | Breakdown product from the use of the pesticide carboxyfuran |
| Imidacloprid (ppb) |  |  |  |  | 360 | Runoff/leaching from insecticide used on structures, gardens, turf and domestic animals |
| Isopropylbenzene |  |  |  |  | N/A | Discharge from chemical manufacturing |
| Isopropyltoluene |  |  |  |  | N/A | Discharge from chemical manufacturing |
| Manganese\* (ppb) |  |  |  |  | 300 | Erosion of natural deposits |
| \* US EPA has established a lifetime health advisory (HA) value of 300 ppb for manganese to protect against concerns of potential neurological effects, and a one-day and 10-day HA of 1000 ppb for acute exposure. | | | | | | |
| 2-methoxyethanol |  |  |  |  | N/A | Industrial solvent in the manufacture of varnishes, dyes, and resins also additive in airplane deicing solutions. |
| Methyl ethyl ketone (ppb) |  |  |  |  | 350 | Discharge from use as a production solvent and degreaser |
| Methyl isobutyl ketone (ppm) |  |  |  |  | 4 | Discharge from use as a production and extraction solvent |
| Methyl tertiary butyl ether\*  or MTBE (ppb) |  |  |  | 20-40 | 70 | Fuel additive; leaks and spills from gasoline storage tanks |
| \*EPA has established a lifetime Health Advisory (HA) of 0.3 mg/L and an acute HA at 1.0 mg/L | | | | | | |
| Methomyl |  |  |  |  | N/A | Runoff from use as an insecticide |
| Metolachlor (ppb) |  |  |  |  | 100 | Run-off from use as a herbicide |
| Metribuzin |  |  |  |  | N/A | Run-off from use as a herbicide |
| Total microcystin (ppt) |  |  |  |  | 300 | Certain algal blooms |
| Microcystin-LA (ppb) |  |  |  |  | 1.6 | Certain algal blooms |
| Microcystin-LF(ppb) |  |  |  |  | 1.6 | Certain algal blooms |
| Microcystin-LR (ppb) |  |  |  |  | 1.6 | Certain algal blooms |
| Microcystin-LY (ppb) |  |  |  |  | 1.6 | Certain algal blooms |
| Microcystin-RR (ppb) |  |  |  |  | 1.6 | Certain algal blooms |
| Microcystin-YR (ppb) |  |  |  |  | 1.6 | Certain algal blooms |
| Molybdenum (ppb) |  |  |  |  | 40 | Naturally-occurring element found in ores and present in plants, animals and bacteria; commonly used form molybdenum trioxide used as a chemical reagent |
| Naphthalene (ppb) |  |  |  |  | 140 | Discharge from use in mothballs and other domestic products |
| Nickel (ppb) |  |  |  |  | 100 | Discharge from domestic wastewater, landfills, and mining and smelting operations |
| N-nitrosodi-methylamine  (NDMA) (ppt) |  |  |  |  | 10 | Discharge from industrial use; as a by-product of drinking water treatment; produced from naturally occurring precursor chemicals |
| Nodularin |  |  |  |  | N/A | Certain algal blooms |
| Noroviruses |  |  |  |  | N/A | N/A |
| n-propylbenzene |  |  |  |  | N/A | Discharge from chemical manufacturing |
| o-toluidine |  |  |  |  | N/A | Solvent used in the manufacture of dyes, rubber, chemicals and pesticides; curing agent in epoxy resin systems. |
| Oxyfluorfen |  |  |  |  | 200 ppb | Deposition and runoff from herbicide application |
| Hexafluoropropylene oxide  dimer acid (HFPO-DA) |  |  |  |  | N/A | Manmade chemical; used in products to make them stain, grease, heat and water resistant |
| N-ethyl  perfluorooctanesulfonamidoacet  ic acid (NEtFOSAA) |  |  |  |  | N/A | Manmade chemical; used in products to make them stain, grease, heat and water resistant |
| N-methyl  perfluorooctanesulfonamidoaceti  c acid (NMeFOSAA) |  |  |  |  | N/A | Manmade chemical; used in products to make them stain, grease, heat and water resistant |
| Perfluorobutanesulfonic1 Acid (PFBS) |  |  |  |  | N/A | Manmade chemical; used in products to make them stain, grease, heat and water resistant |
| Perfluorododecanoic acid  (PFDoA) |  |  |  |  | N/A | Manmade chemical; used in products to make them stain, grease, heat and water resistant |
| Perfluorohexanoic acid  (PFHxA) |  |  |  |  | N/A | Manmade chemical; used in products to make them stain, grease, heat and water resistant |
| Perfluorotetradecanoic acid  (PFTA) |  |  |  |  | N/A | Manmade chemical; used in products to make them stain, grease, heat and water resistant |
| Perfluorotridecanoic acid  (PFTrDA) |  |  |  |  | N/A | Manmade chemical; used in products to make them stain, grease, heat and water resistant |
| Perfluoroundecanoic acid  (PFUnA) |  |  |  |  | N/A | Manmade chemical; used in products to make them stain, grease, heat and water resistant |
| 11-chloroeicosafluoro-3-  oxaundecane-1-sulfonic acid  (11Cl-PF3OUdS) |  |  |  |  | N/A | Manmade chemical; used in products to make them stain, grease, heat and water resistant |
| 9-chlorohexadecafluoro-3-  oxanone-1-sulfonic acid (9Cl-  PF3ONS) |  |  |  |  | N/A | Manmade chemical; used in products to make them stain, grease, heat and water resistant |
| 4,8-dioxa-3H-perfluorononanoic  acid (ADONA) |  |  |  |  | N/A | Manmade chemical; used in products to make them stain, grease, heat and water resistant |
| Petroleum hydrocarbons  Total P.H.  Aliphatics C5-C8  C9-C12  C9-C18  C19-C36  Aromatics C9-C10  C11-C22 |  |  |  |  | 200 ppb  300 ppb  700 ppb  700 ppb  14 ppm  200 ppb  200 ppb | Discharge from the production, distribution, storage, and use of petroleum in transportation and industrial applications |
| Piperonyl Butoxide (ppb) |  |  |  |  | 992 | Deposition and run-off from pesticide application for mosquitoes |
| Profenofos (ppt) |  |  |  |  | 300 | Deposition and run-off from use as an insecticide |
| 2-propen-1-ol (ppt) |  |  |  |  | 350 | Solvent in the pharmaceutical industry; formed naturally in small amounts during many fermentation processes and produced in small amounts by gut microflora. |
| Propachlor |  |  |  |  | N/A | Run-off from use as a herbicide |
| n-propylbenzene |  |  |  |  | N/A | Discharge from chemical manufacturing |
| Quinoline (ppt) |  |  |  |  | 1000 (one in ten thousand cancer risk) | Environmental contaminant associated with facilities processing oil shale or coal; solvent used in the manufacture of dyes and chemicals. |
| Radon-222 pCi/L |  |  |  | N/A | 10,000 | Natural sources |
| Sodium (ppm) |  |  |  | N/A | 20 | Discharge from the use and improper storage of sodium-containing de-icing compounds or in water-softening agents |
| Strontium (ppb) |  |  |  |  | 1500 | Naturally-occurring element; historically, commercial use of strontium has been in the faceplate glass of cathode-ray tube televisions to block x-ray emissions |
| Sulfate (ppm) |  |  |  | 250 | N/A | Natural sources |
| Sumithrin (ppb) |  |  |  |  | 40 | Deposition and run-off from pesticide application for mosquitoes |
| Tebuconazole (ppb) |  |  |  |  | 190 | Deposition and run-off from fungicide application |
| Tertiary-amyl methyl ether  (TAME) (ppb) |  |  |  |  | 90 | Discharge from use as an octane enhancer and oxygenate in gasoline |
| Tertiary butyl alcohol  (TBA) (ppb) |  |  |  |  | 120 | Degraded from MTBE; discharged from use as an octane enhancer and oxygenate in gasoline |
| Testosterone |  |  |  |  | N/A | Androgenic steroid naturally produced in the human body; and used in pharmaceuticals |
| 1,1,1,2-Tetrachloroethane |  |  |  |  | N/A | Discharge from use in chemical manufacturing |
| 1,1,2,2-Tetrachloroethane |  |  |  |  | N/A | Discharge from use in dry cleaning |
| Tetrahydrofuran (ppm) |  |  |  |  | 1.3 | Discharge from use as an adhesive for joining pipes in water treatment systems and as a production solvent |
| Total permethrin (cis-& trans-) (ppb) |  |  |  |  | 3.344 (one in 1 million cancer risk) | Deposition and run-off from insecticide application |
| Tribufos (ppt) |  |  |  |  | 600 | Deposition and run-off from application as a plant growth regulator |
| 1,2,3-Trichlorobenzene |  |  |  |  | N/A | Discharge from use in chemical manufacturing |
| 1,1,2-Trichloro-1,2,2-trifluoroethane  (ppm) |  |  |  |  | 210 | Discharge from use as a cleaning agent, production solvent, and blowing agent |
| Trichlorofluoromethane  (Freon 11) |  |  |  |  | N/A | Discharge from use as a refrigerant |
| 1,2,3-Trichloropropane (ppq) |  |  |  |  | 400 to 40,000 | Discharge from use in paint and varnish removers |
| 1,2,4-Trimethylbenzene |  |  |  |  | N/A | Discharge from use in dyes and paints |
| 1,3,5-Trimethylbenzene |  |  |  |  | N/A | Discharge from use in chemical manufacturing |
| Vanadium(ppb) |  |  |  |  | 21 | Naturally-occurring elemental metal; used as vanadium pentoxide which is a chemical intermediate and a catalyst |
|  | | | | | | |
| Secondary Contaminants | Date(s) Collected | Result or Range Detected | Average Detected | SMCL | ORSG | Possible Source |
| Aluminum (ppb) |  |  |  |  | 200 | Residue from water treatment process: erosion of natural deposits |
| Chloride (ppm) |  |  |  |  | 250 | Runoff and leaching from natural deposits; seawater influence |
| Color (C.U.) |  |  |  | 15 | N/A | Naturally occurring organic material |
| Copper (ppm) |  |  |  | 1 | N/A | Naturally occurring organic material |
| Corrosivity |  |  |  | Non-corrosive | N/A | N/A |
| Foaming Agents (ppb) |  |  |  | 500 | N/A | N/A |
| Iron (ppb) |  |  |  | 300 | N/A | Naturally occurring, corrosion of cast iron pipes |
| Manganese\* (ppb) |  |  |  | 50 | Health Advisory of 300 | Natural sources as well as discharges from industrial uses |
| \* EPA has established a lifetime Health Advisory (HA) for manganese of 0.3 mg/L and an acute HA at 1.0 mg/L  (Add health language listed below if detect is over 300 ppb ) | | | | | | |
| Odor (T.O.N.) |  |  |  | 3 | N/A | Erosion of natural deposits; Leaching from wood preservatives0 |
| pH |  |  |  | 6.5-8.5 | N/A | Runoff and leaching from natural deposits; seawater influence |
| Silver (ppb) |  |  |  | 100 | N/A | Erosion of natural deposits |
| Sulfate (ppm) |  |  |  | 250 | N/A | Runoff and leaching from natural deposits; industrial wastes |
| Total Dissolved Solids (TDS) (ppm) |  |  |  | 500 | N/A | Erosion of natural deposits. |
| Zinc (ppm) |  |  |  | 5 | N/A | Erosion of natural deposits, leaching from plumbing materials |

*[Remember to delete all rows from the water quality tables that do not apply to your system. You do not need to report non-detects.]*

## 6. COMPLIANCE WITH DRINKING WATER REGS

**Does My Drinking Water Meet Current Health Standards?**

[For any contaminant **violations** of an MCL, MRDL, treatment technique, or exceeding an action level, you must include:]

* The health effects statement for that contaminant
* An explanation of the violation/exceedance
* The length of the violation
* Actions taken to address the violation.

[Example]

We are committed to providing you with the best water quality available. However some contaminants that were tested last year did not meet all applicable health standards regulated by the state and federal government. Due to contaminant violations of [insert name of contaminant(s)] during the period(s) of [date range] our system took the following corrective actions.

[Examples:

* We collected additional samples.
* We announced public notification by newspaper, posting notices etc.
* We disinfected and flushed the distribution system to eliminate coliform bacteria.]

Our water system and MassDEP monitor and record the effectiveness of actions taken in response to contaminant violations. The health effect statement for this contaminant is listed below.

{OPTIONAL - If NO contaminant **violations** are reported, insert a statement such as the following}.

We are committed to providing you with the best water quality available. We are proud to report that last year your drinking water met all applicable health standards regulated by the state and federal government.

[If you delivered a **Public Notice** (PN) in the calendar year you must make note of it in your CCR. List what it was for, the date it was posted, how long the notice was posted, if the condition requiring the posting is still in effect, etc.]

[If you are using your CCR to deliver your Tier 3 PN, the PN, in its entirety, must be included in your CCR. Be sure to fill out the PN section on the CCR Certification form so it can serve as your PN Certification form as well.]

**Health Effects Statements**

[Some common health statements are listed below. Refer to the Guide for complete listings of health statements for regulated and unregulated contaminants. Delete all statements that do not apply to your system.]

[Health Effects Statement to be included if **arsenic** is detected above the 10 ppb MCL:]

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.

[Health Effects Statement to be included for **copper** violations:]

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.

[Health Effects Statement to be included if reporting total **coliform** violations:]

Total Coliform: Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.

[Health Effects Statement to be included if reporting **fecal coliform** or **E.coli** violations:]

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.

[Health Effects Statement to be included for **lead** violations (in addition to the required lead language described in the “Substances Found in Drinking Water” section:]

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.

*[For* ***manganese*** *concentrations of 300 ppb and greater you must, in addition to the table, include the educational statement below. You should also include a statement of what your system is doing to reduce manganese levels below 300 ppb.*

Manganese is a naturally occurring mineral found in rocks, soil, groundwater, and surface water. Manganese is necessary for proper nutrition and is part of a healthy diet, but can have undesirable effects on certain sensitive populations at elevated concentrations. The United States Environmental Protection Agency (EPA) and MassDEP have set an aesthetics-based Secondary Maximum Contaminant Level (SMCL) for manganese of 50 ug/L (microgram per liter), or 50 parts per billion. In addition, MassDEP’s Office of Research and Standards (ORS) has set a drinking water guideline for manganese (ORSG), which closely follows the EPA public health advisory for manganese.

**Drinking water may naturally have manganese and, when concentrations are greater than 50 ppb, the water may be discolored and taste bad. Over a lifetime, the EPA recommends that people drink water with manganese levels less than 300 ppb and over the short term, EPA recommends that people limit their consumption of water with levels over 1000 ppb, primarily due to concerns about possible neurological effects. Children younger than one year old should not be given water with manganese concentrations over 300 ppb, nor should formula for infants be made with that water for more than a total of 10 days throughout the year.** The ORSG differs from the EPA’s health advisory because it expands the age group to which a lower manganese concentration applies from children less than six months of age to children up to one year of age to address concerns about children’s susceptibility to manganese toxicity.

See EPA Drinking Water Health Advisory for manganese at: <https://www.epa.gov/sites/production/files/2014-09/documents/support_cc1_magnese_dwreport_0.pdf> and MassDEP Office of Research and Standards (ORSG) for manganese [https://www.mass.gov/doc/massdep-office-of-research-and-standards-guideline-orsg-for-manganese/download?\_ga=2.224281821.778819075.1638290958-632873118.1621443750](https://www.mass.gov/doc/massdep-office-of-research-and-standards-guideline-orsg-for-manganese/download?_ga=2.224281821.778819075.1638290958-632873118.1621443750%20) .

[Health Effects Statement to be included if reporting **turbidity** violations:]

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.

**Drinking Water Violations**

[If your system has violated or continues to violate any of the national drinking water regulatory requirements during the reporting period, your CCR must include a clear and readily understandable explanation of any violation during the reporting period, as well as any potential adverse health effects and the steps taken to correct the violation(s).

Delete this section if you do not have any violations to report.]

[These violations may include:]

* Monitoring and reporting compliance data

[We failed to complete required sampling in a timely manner, which is a monitoring and reporting violation. Because we did not take the required number of samples, we did not know whether the contaminants were present in your drinking water, and we are unable to tell you whether your health was at risk during that time. The contaminants for which monitoring was not done are listed in the table below, with the period during which samples should have been taken, the number of samples each contaminant required, the number taken, and when the required sampling was conducted. In addition to sampling for these contaminants, our system announced public notification upon awareness of the violation.]

*[Example table]*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Contaminant** | **Monitoring Period** | **Number of Samples Required** | **Number of Samples Taken** | **Date Sampling Conducted** | **Health Effects** |
| Volatile Organic Contaminants | 1/2016-12/2016 | 1 | 0 | 2/2016 | Unknown |
| Total Coliform Bacteria | 10/1/2016-10/31/2016 | 100 | 93 | 11/2016 | Unknown |

[Regardless of whether the violation information is presented in tabular or paragraph form or a combination thereof, an explanation of the potential health effects and steps to correct the violation must also be included. If a system failed to take the sample on time, the report should say “health effects unknown.” If the system took the samples accurately and on time, but mailed the results late, the system does not need to discuss health effect.]

* Filtration and disinfection processes; if the violation was due to a failure to install adequate filtration or disinfection equipment or processes; or there was a failure of that equipment or process, the following statement must be included in the CCR:

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.

* Lead and copper requirements; if the violation was a failure to meet corrosion control treatment, or lead service requirements, you must include the appropriate health effects statement(s)
* Treatment techniques for acrylamide and epichlorohydrin; if either treatment technique is violated, the appropriate heath effects statement(s) must be included.
* Record keeping requirements
* Violation of the terms of a variance, an exemption, or an administrative or judicial order
* When an event occurs during the reporting year which causes a PWS to violate the Surface Water Treatment Rule or any other drinking water standard
* If your system was operating under a MassDEP consent order last year to install corrosion control treatment for either lead or copper, you must include the appropriate health effects statement(s), the reason for the order and the actions being taken to comply with the order.
* If your system was operating under a MassDEP order (ACO or UAO) last year relating to water quality or water quantity issues such as; Do not drink orders; Boil Orders; Declarations of Water Emergency; SWTR Orders; include the reason for the order and actions being taken to comply with the order.

**System Exempt from Meeting Certain Requirements**

[If your system operated under a variance or exemption at any time during the reporting year you must include the following information in your CCR. Refer to Drinking Water Regulations 310 CMR 22.13 or 22.14 for applicability. Delete this section if it does not apply to your system.]

* Include an explanation of the variance or exemption
* The date it was issued and reason why it was granted
* A status report on what the system is doing to remedy the problem
* A notice to the public for input on the review or renewal of variance or exemption

## 7. EDUCATIONAL INFORMATON

[Special educational statements are required to be included in your report for certain contaminant detections. Insert the following statements as applicable. Delete any statements that do not apply to your system.]

**Do I Need To Be Concerned about Certain Contaminants Detected in My Water?**

*[Insert following statement if* ***arsenic*** *is detected above 5 ppb, but below the 10 ppb MCL.]*

While your drinking water meets EPA’s standard for arsenic, it does contain low levels of arsenic. EPA’s standard balances the current understanding of arsenic’s possible health effects 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 know to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

[Insert the following statement if **cryptosporidium** is detected in raw or finished water. It must include a summary of results of monitoring; an explanation of the significance of the results; and the following health statement:]

*Cryptosporidium* is a microbial parasite found in surface water throughout the U.S. Although filtration removes *Cryptosporidium*, the most commonly used filtration methods cannot guarantee 100% removal. Our monitoring indicates the presence of these organisms in our source water and/or finished water. Current test methods do not allow 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 are able to overcome the disease within a few weeks. However, immuno-compromised people have more difficulty and are at a greater risk of developing severe, life-threatening illness. Immuno-compromised individuals are encouraged to consult their doctor regarding appropriate precautions to take to prevent infection. *Cryptosporidium* must be ingested for it to cause disease, and may be passed through other means than drinking water.

[Insert the following educational statement if your water system detected **fluoride** in the finished water above 2.0 ppm (2 mg/l), but below the MCL of 4.0 ppm. This statement complies with the public notification requirements of 310 CMR 22.06C and 310 CMR 22.16]

This is an alert about your drinking water and a cosmetic dental problem that might affect children under nine years of age. At low levels, fluoride can help prevent cavities, but children drinking water containing more than 2 ppm of fluoride may develop cosmetic discoloration of their permanent teeth (dental fluorosis). The drinking water provided by your community water system *[name]* has a fluoride concentration of *[insert value]* mg/l. Dental fluorosis, in its moderate or severe forms, may result in a brown staining and/or pitting of the permanent teeth. This problem occurs only in developing teeth, before they erupt from the gums. Children under nine should be provided with alternative sources of drinking water or water that has been treated to remove the fluoride to avoid the possibility of staining and pitting of their permanent teeth. You may also want to contact your dentist about proper use by young children of fluoride containing products. Older children and adults may safely drink the water. Drinking water containing more than 4 ppm of fluoride (the U.S. Environmental Protection Agency’s drinking water standard) can increase your risk of developing bone disease. Your drinking water does not contain more than 4 ppm of fluoride, but we’re required to notify you when we discover the fluoride levels in your drinking water to exceed 2 ppm because of the cosmetic dental problem. Some home water treatment units are available to remove fluoride from drinking water. To learn more about available home water treatment units, you may call the NSF International at 1-877-8-NSF-HELP. For more information, please call *[name of water system contact]* at *[phone number]* or for additional information on fluoride in drinking water, contact the Massachusetts Department of Public Health, Office of Oral Health, 617-624-5943.

*[Insert the following educational statement if your water system detected* ***manganese*** *in the finished water above 300 ug/L. You may use the educational statement below or get MassDEP’s written approval for alternative CCR language. The educational statement for manganese should explain the significance of the manganese detects and if customers need to be concerned by its presence. The bolded required language in the statement below must be included verbatim in the CCR. Please contact MassDEP if you want to change the suggested, non-mandatory language.] Note: systems detecting manganese at 50 ug/L to less than or equal to 300 ug/L need only put their detects in the table.*

Manganese is a naturally occurring mineral found in rocks, soil and groundwater, and surface water. Manganese is necessary for proper nutrition and is part of a healthy diet, but can have undesirable effects on certain sensitive populations at elevated concentrations.  The United States Environmental Protection Agency (EPA) and MassDEP have set an aesthetics-based Secondary Maximum Contaminant Level (SMCL) for manganese of 50 ug/L (micrograms per liter), or 50 parts per billion, and health advisory levels.  In addition, EPA and MassDEP have also established public health advisory levels. **Drinking water may naturally have manganese and, when concentrations are greater than 50 µg/L, the water may be discolored and taste bad.  Over a lifetime, EPA recommends that people drink water with manganese levels less than 300 µg/L and over the short term, EPA recommends that people limit their consumption of water with levels over 1000 ug/L, primarily due to concerns about possible neurological effects.  Children up to 1 year of age should not be given water with manganese concentrations over 300 ug/L, nor should formula for infants be made with that water for longer than 10 days.**  See: [https://search.epa.gov/epasearch/?querytext=manganese+in+drinkig+water&areaname=&areacontacts=&areasearchurl=&typeofsearch=epa&result\_template=&referer=https%3A%2F%2Fwww.epa.gov%2Fhome%2Fpage-not-found#/](https://search.epa.gov/epasearch/?querytext=manganese+in+drinkig+water&areaname=&areacontacts=&areasearchurl=&typeofsearch=epa&result_template=&referer=https%3A%2F%2Fwww.epa.gov%2Fhome%2Fpage-not-found%23/%20)

[Insert the following statement if **nitrate** is detected above 5 ppm (50% of the MCL), but below the MCL]

Nitrate in drinking water at levels above 10 ppm is a health risk for infants less than six months old. 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 for advice from your health care provider.

[Insert the following statement if **total** **trihalomethanes** is detected above 80 as an annual average (monitored and calculated under the provisions of 310 CMR 22.07).]

Some people, who drink water containing trihalomethanes in excess of the MCL over many years, experience problems with their liver, kidneys, or central nervous systems, and may have increased risk of getting cancer.

[If **radon** is detected in finished water, you must include monitoring results; an explanation of the significance of the results; and the following health statement:]

Radon is a radioactive gas that you cannot see, taste, or smell. It is found throughout the U.S. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon can lead to lung cancer. Drinking water containing radon may also cause increase risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is 4 picocuries per liter of air (pCi/l) or higher. There are simple ways to fix a radon problem that aren’t too costly. For additional information, call the Massachusetts Department of Public Health, Radon Program at 413-586-7525 or call EPA’s Radon Hotline (800-SOS-RADON).

*{OPTIONAL* ***-*** *Insert a statement on sodium if it is detected above the guideline of 20 ppm.}*

Sodiumsensitive individuals, such as those experiencing hypertension, kidney failure, or congestive heart failure, should be aware of the sodium levels where exposures are being carefully controlled.

***{****OPTIONAL* ***-*** *Insert health statements on unregulated contaminants reported in your table if your results are near or above an established guideline, health advisory, or SMCL. Consult the Guide for examples.}*

*{ OPTIONAL – Insert cross connection control educational language or materials to meet your annual cross connection educational program requirements for residents, local officials, and owners of cross connection devices. Two examples are shown below.}*

*Example 1:*

Cross-Connection Control and Backflow Prevention

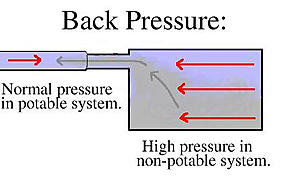
The [*PWS Name*] makes every effort to ensure that the water delivered to your home and business is clean, safe and free of contamination. Our staff works very hard to protect the quality of the water delivered to our customers from the time the water is extracted via deep wells from underground aquifers or withdrawal point from a surface water source, throughout the entire treatment and distribution system. But what happens when the water reaches your home or business? Is there still a need to protect the water quality from contamination caused by a cross-connection? If so, how?

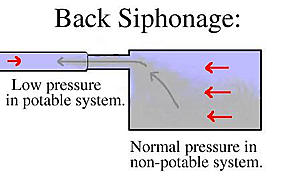
**What is a cross-connection?**

A cross-connection occurs whenever the drinking water supply is or could be in contact with potential sources of pollution or contamination. Cross-connections exist in piping arrangements or equipment that allows the drinking water to come in contact with non-potable liquids, solids, or gases (hazardous to humans) in event of a backflow.

**What is a backflow?**

Backflow is the undesired reverse of the water flow in the drinking water distribution lines. This backward flow of water can occur when the pressure created by equipment or a system such as a boiler or air-conditioning is higher than the water pressure inside the water distribution line (back pressure), or when the pressure in the distribution line drops due to routine occurrences such as water main breaks or heavy water demand causing the water to flow backward inside the water distribution system (back siphonage). Backflow is a problem that many water consumers are unaware of, a problem that each and every water customer has a responsibility to help prevent.





**What can I do to help prevent a cross-connection?**

Without the proper protection something as simple as a garden hose has the potential to contaminate or pollute the drinking water lines in your house. In fact over half of the country’s cross-connection incidents involve unprotected garden hoses. There are very simple steps that you as a drinking water user can take to prevent such hazards, they are:

* NEVER submerge a hose in soapy water buckets, pet watering containers, pool, tubs, sinks, drains, or chemicals.
* NEVER attached a hose to a garden sprayer without the proper backflow preventer.
* Buy and install a hose bibb vacuum breaker in any threaded water fixture. The installation can be as easy as attaching a garden hose to a spigot. This inexpensive device is available at most hardware stores and home-improvement centers.
* Identify and be aware of potential cross-connections to your water line.
* Buy appliances and equipment with backflow preventers.
* Buy and install backflow prevention devices or assemblies for all high and moderate hazard connections.

If you are the owner or manager of a property that is being used as a commercial, industrial, or institutional facility you must have your property’s plumbing system surveyed for cross-connection by your water purveyor. If your property has NOT been surveyed for cross-connection, contact your water department to schedule a cross-connection survey.

*Example 2:*

**What is a Cross Connection and what can I do about it?**

****

Clean Drinking Water

Polluted Source

A cross connection is a connection between a drinking water pipe and a polluted source. The pollution can come from your own home. For instance, you’re going to spray fertilizer on your lawn. You hook up your hose to the sprayer that contains the fertilizer. If the water pressure drops at the same time you turn on the hose, the fertilizer may be sucked back into the drinking water pipes through the hose. This problem can be prevented by using an attachment on your hose called a backflow-prevention device.

The \_\_\_\_\_\_\_ Water Department recommends the installation of backflow prevention devices, such as a low cost hose bib vacuum breaker, for all inside and outside hose connections. You can purchase this at a hardware store or plumbing supply store. This is a great way for you to help protect the water in your home as well as the drinking water system in your town! For additional information on cross connections and on the status of your water systems cross connection program, please contact \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

## 8. ADDITIONAL INFORMATION

*{OPTIONAL - Add any additional information that you feel would benefit your consumers. Take this opportunity to inform your consumers of work your system is doing to ensure safe drinking water. Examples noted below.}*

* *Additional information on water treatment if your system provides treatment or adds chemicals to the water (such as fluoride) for reasons other than compliance purposes*
* *An additional statement on lead for those systems in compliance*
* *A simple map of your system and its sources to present a clear picture of system operation*
* *For those systems exceeding lead, insert additional lead public education materials to meet annual distribution requirements.*
* *Information on voluntary or mandatory water use restrictions implemented last year or currently in effect.*
* *If using the CCR as a Tier 3 Public Notice, add the PN in its entirety.*