3745-96-02 **Required report content.**

(A) Each community water system shall provide to its customers an annual report that contains the information specified in this rule and rule 3745-96-03 of the Administrative Code.

(B) ~~Information~~ All of the following information on the source of the water delivered:

(1) Each report shall identify the ~~source(s)~~ sources of the water delivered by the community water system by providing information on each of the following as applicable:

(a) The type of the water~~:~~ (e.g., surface water, ground water~~; and~~).

(b) The commonly used name (if any) and location of the body or bodies of water.

(2) When a source water assessment has been completed, the report shall notify consumers of the availability of this information and the means to obtain it. Where a community water system has received a source water assessment summary from the director, the report shall include a brief summary of the community water system's susceptibility to potential sources of contamination, using language provided by the director or equivalent language acceptable to the director.

(C) Report definitions.

(1) Each report shall include the following definitions:

(a) "Maximum contaminant level goal" or "MCLG"~~:~~ means 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~~; and~~.

(b) "Maximum contaminant level" or "MCL"~~:~~ means 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.

(2) A report that contains data on contaminants the state regulates shall include the following definitions as applicable:

(a) "Treatment technique,"~~: a required process intended to reduce the level of a contaminant in drinking water;~~ as defined in rule 3745-81-01 in the

Administrative Code..

(b) "Action level"~~:~~ means the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system shall follow~~;~~.

(c) "Maximum residual disinfectant level goal" or "MRDLG"~~:~~ means the level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants~~; and~~.

(d) "Maximum residual disinfectant level" or "MRDL"~~:~~ means the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

(3) A report that contains information regarding a level one or level two assessment required under rules 3745-81-50 to 3745-81-55 of the Administrative Code shall include the following definitions as applicable:

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

(b) "Level two assessment": A level two assessment is a very detailed study of the water system to identify potential problems and determine, if possible, why an Escherichia coli (E. coli) maximum contaminant level violation has occurred or why total coliform bacteria have been found in the water system on multiple occasions.

(D) Information on detected contaminants.

(1) This paragraph specifies the requirements for information to be included in each report for contaminants subject to mandatory monitoring (except Cryptosporidium) and applies to all of the following:

(a) Contaminants subject to an MCL, action level, maximum residual disinfectant level~~,~~ or treatment technique (regulated contaminants) in accordance with Chapter 3745-81 of the Administrative Code~~;~~.

(b) Contaminants for which monitoring is required by 40 C.F.R. 141.40 ~~(October 29, 2002)~~(May 2, 2012), (unregulated contaminants)~~; and~~.

~~(c) Disinfection byproducts or microbial contaminants for which monitoring is required by 40 C.F.R. 141.142 and 141.143 (May 14, 1996), except as provided under paragraph (E)(1) of this rule, and which are detected in the finished water.~~

(2) The data relating to these contaminants shall be displayed in one table or in several adjacent tables. Any additional monitoring results which a community water system chooses to include in its report shall be displayed separately.

(3) The data shall be derived from data collected to comply with USEPA and state monitoring and analytical requirements during the previous calendar year ~~except that~~with the following exception:

(a) Where a system is allowed to monitor for regulated contaminants less often than once a year, the ~~table(s)~~table shall include the date and results of the most recent sampling and the report shall include a brief statement indicating that the data presented in the report are from the most recent testing done in accordance with the regulations. No data older than five years shall be included.

~~(b) Results of monitoring in compliance with 40 C.F.R. 141.142 and 141.143 (May 14, 1996) need only be included for five years from the date of last sample or until any of the detected contaminants becomes regulated and subject to routine monitoring requirements, whichever comes first.~~

(4) For detected regulated contaminants (listed in the appendix to this rule), the ~~table(s)~~ tables shall contain all of the following information:

(a) The MCL for that contaminant expressed as a number equal to or greater than 1.0 (as provided in the appendix to this rule)~~;~~.

(b) The MCLG for that contaminant expressed in the same units as the MCL~~;~~.

(c) If there is no MCL for a detected contaminant, the table shall indicate that there is a MRDL, MRDLG, treatment technique~~,~~ or specify the action level, applicable to that contaminant, and the report shall include the definitions for MRDL, MRDLG, treatment technique ~~and/or~~ or action level, as ~~appropriate~~applicable, specified in paragraph (C)(3) of this rule~~;~~.

(d) For contaminants subject to an MCL or MRDL, except turbidity, ~~and~~ total ~~coliforms~~coliform, fecal coliform and E. coli, the highest contaminant

level used to determine compliance with state primary drinking water rules and the range of detected levels, as follows:

(i) When compliance with the MCL is determined by calculating a running annual average of all samples taken at a sampling point: the highest average of any of the sampling points and the range of all sampling points expressed in the same units as the MCL. Beginning one year after the applicable compliance date identified in ~~paragraph (D)(1) of~~ rule 3745-81-24 of the Administrative Code, for the MCLs for TTHM and HAA5 in paragraphs (B) and (C) of rule 3745-81-12 of the Administrative Code, systems ~~must~~ shall include the highest locational running annual average for TTHM and HAA5 and the range of individual sample results for all monitoring locations expressed in the same units as the MCL. If more than one location exceeds the TTHM or HAA5 MCL, the system ~~must~~shall include the locational running annual averages for all locations that exceed the MCL.

(ii) When compliance with the MCL is determined on a system-wide basis by calculating a running annual average of all samples at all sampling points: the average and range of detection expressed in the same units as the MCL.

(iii) When compliance with the MCL is determined by any other method: the highest value used to determine compliance with state primary drinking water rules and the range of detected levels.

(e) For turbidity, report the highest single measurement and the lowest monthly percentage of samples meeting the turbidity limits specified in rule 3745-81-73 of the Administrative Code for the filtration technology being used. The report shall include an explanation of the reasons for measuring turbidity~~;~~.

(f) For lead and copper~~:~~, the ninetieth percentile value of the most recent round of sampling and the number of sampling sites exceeding the action level~~;~~.

(g) For total coliform analytical results until March 31, 2016, the following information as applicable:

(i) The highest monthly number of positive samples for systems collecting fewer than forty samples per month~~; or~~.

(ii) The highest monthly percentage of positive samples for systems collecting at least forty samples per month~~;~~.

(h) For fecal coliform ~~or Escherichia coli (E. coli):~~and E. coli until March 31, 2016, the total number of positive samples~~; and~~.

(i) The likely ~~source(s)~~ sources of detected contaminants to the best of the operator's knowledge. If the operator lacks specific information on the likely source, the report shall include one or more of the typical sources for that contaminant listed in the appendix to this rule which are most applicable to the system.

(j) For E. coli analytical results under rules 3745-81-50 to 3745-81-55 of the Administrative Code, beginning April 1, 2016, the total number of positive samples.

~~(j) The system is required to include individual sample results for the IDSE conducted in accordance with rule 3745-81-22 of the Administrative Code when determining the range of TTHM and HAA5 results to be reported in the annual consumer confidence report for the calendar years that the IDSE samples were taken.~~

(5) If a community water system distributes water to its customers from multiple hydraulically independent distribution systems that are fed by different raw water sources, the table should contain a separate column for each service area and the report should identify each separate distribution system. Alternatively, a community water system may produce separate reports tailored to include data for each service area.

(6) The ~~table(s)~~ table shall clearly identify any data indicating violations of MCLs, MRDLs or treatment techniques and the report shall contain a clear and readily understandable explanation of the violation including: the length of the violation, the potential adverse health effects~~,~~ and actions taken by the system to address the violation. To describe the potential health effects, the community water system shall use the relevant language for the particular contaminant as specified in the appendix to this rule.

(7) For detected unregulated contaminants (without an MCL) for which monitoring is required (except Cryptosporidium), the ~~table(s)~~table shall contain the average and range at which the contaminant was detected. The report may include a brief explanation of the reasons for monitoring for unregulated contaminants.

(E) Information on Cryptosporidium, radon~~,~~ and other contaminants:

(1) If the system has performed ~~any~~ monitoring for Cryptosporidium, ~~including monitoring performed to satisfy the requirements of 40 C.F.R. 141.143 (May 14, 1996),~~ which indicates that Cryptosporidium may be present in the source water or the finished water, the report shall include:

(a) A summary of the results of the monitoring~~; and~~.

(b) An explanation of the significance of the results.

(2) If the community water system has performed any monitoring for radon which indicates that radon may be present in the finished water, the report shall include both of the following:

(a) The results of the monitoring~~; and~~.

(b) An explanation of the significance of the results.

(3) For a community water system that has performed additional monitoring which indicates the presence of other contaminants in the finished water, the director recommends the water system include in its report any results which may indicate a health concern. To determine if results may indicate a health concern, the director recommends the community water system find out if USEPA has proposed a national primary drinking water regulation or issued a health advisory for that contaminant by calling the safe drinking water hotline (800-426-4791). The director considers detects above a proposed MCL or health advisory level to indicate possible health concerns. For such contaminants, the report may include the following information:

(a) The results of the monitoring, including the average and range of values~~; and~~.

(b) An explanation of the significance of the results noting the existence of a health advisory or a proposed regulation.

(F) Compliance with state primary drinking water rules. In addition to the requirements set forth in paragraph (D)(6) of this rule, the report shall note any violation that occurred during the year covered by the report of ~~a requirement listed below~~any of the following, and include a clear and readily understandable explanation of the violation, any potential adverse health effects~~,~~ and the steps the community water

system has taken to correct the violation:

(1) Monitoring and reporting of compliance data~~;~~.

(2) Filtration and disinfection prescribed by rules 3745-81-71 to 3745-81-75 of the Administrative Code. For systems which have failed to install adequate filtration or disinfection equipment or processes, or have had a failure of such equipment or processes which constitutes a violation, the report shall include the following language as part of the explanation of potential adverse health effects: "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"~~;~~.

(3) Lead and copper control requirements prescribed by rules 3745-81-80 to 3745-81-89 of the Administrative Code. For systems which fail to take one or more actions prescribed by paragraph (D) of rule 3745-81-80 and rule 3745-81-81, 3745-81-82, 3745-81-83 or 3745-81-84 of the Administrative Code, the report shall include the applicable language of the appendix to this rule for lead, copper~~,~~ or both~~;~~.

(4) Treatment techniques for acrylamide and epichlorohydrin prescribed by rule 3745-81-17 of the Administrative Code. For systems which violate the requirements of rule 3745-81-17 of the Administrative Code, the report shall include the relevant language from the appendix to this rule~~;~~.

(5) Recordkeeping of compliance data as required by rule 3745-81-33 of the Administrative Code~~;~~.

(6) Special monitoring requirements for organic and inorganic contaminants as prescribed by 40 C.F.R. 141.40 ~~(October 29, 2002)~~(May 2, 2012) and for sodium as prescribed by 40 C.F.R. 141.41 ~~(January 22, 2001); and~~(December 5, 1994).

(7) Violation of the terms of an administrative or judicial order.

(8) Any ground water system that receives notice from the director of a significant deficiency or notice from a laboratory of a fecal indicator-positive ground water source sample that is not invalidated under rule 3745-81-42 of the Administrative Code 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 in accordance with rule 3745-81-43 of the Administrative Code. 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~~;~~.

(c) For each significant deficiency or fecal contamination in the ground water source that has not been addressed under rule 3745-81-43 of the Administrative Code, the director-approved plan and schedule for correction, including interim measures, progress to date~~,~~ and any interim measures completed~~; and~~.

(d) If the system receives notice of a fecal indicator-positive ground water source sample that is not invalidated by the director, the potential health effects using the health effects language in the appendix to this rule.

(G) Additional information~~:~~.

(1) The report shall contain a brief explanation regarding contaminants which may reasonably be expected to be found in drinking water, including bottled water. This explanation shall include the following language:

(a) "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 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.

(b) Contaminants that may be present in source water include the following:

(i) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations~~,~~ and wildlife~~;~~.

(ii) 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~~,~~ or farming~~;~~.

(iii) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff~~,~~ and residential uses~~;~~.

(iv) 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 stormwater runoff~~,~~ and septic systems~~; and~~.

(v) Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

(c) In order to ensure that tap water is safe to drink, USEPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. Food and drug administration regulations establish limits for contaminants in bottled water which shall provide the same protection for public health.

(d) 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 federal environmental protection agency's~~U.S. EPA's safe drinking water hotline (800-426-4791)."

(2) The report shall include the telephone number of the owner, operator~~,~~ or designee of the community water system as a source of additional information concerning the report.

(3) In community water systems that serve a large proportion of non-english speaking residents, defined as ten per cent or more of the residents speak the same non-english language, the report shall include one of the following:

(a) ~~Contain information~~ Information in the ~~appropriate~~applicable language or languages regarding the importance of the report~~; or~~.

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

(4) The report shall include information about opportunities for public participation in decisions that may affect the quality of the water when such opportunities are routinely scheduled by the community water system (e.g., time and place of regularly scheduled board meetings).

(5) The report shall include information on the status of the system's license to operate issued pursuant to Chapter 3745-84 of the Administrative Code.

(6) The community water system may include additional information as it deems necessary for public education consistent with, and not detracting from, the purpose of the report.

~~[Comment: This rule incorporates 40 C.F.R. 141.142 and 141.143 by reference. These sections have been removed from the Code of Federal Regulations as of the July 1, 2001 edition, however, some of the reporting requirements related to these sections are still in effect. The referenced version can be found on the web at http://www.gpoaccess.gov/cfr/index.html.]~~

(7) Compliance information for the U.S.EPA revised total coliform rule, beginning April 1, 2016.

(a) Any public water system required to comply with the level one assessment requirement or level two assessment requirement in accordance with rule 3745-81-53 of the Administrative Code that is not due to an E. coli MCL violation shall include in the report the following text, as applicable, filling in the blanks accordingly:

(i) "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.

(ii) 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.

(iii) 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."

(iv) Any system that has failed to complete all the required assessments or correct all identified significant deficiencies, is in violation of the treatment technique requirement and shall also include one or both of the following statements, as applicable:

(a) "During the past year we failed to conduct all of the required assessments."

(b) "During the past year we failed to correct all identified deficiencies that were found during the assessments."

(b) Any system required to conduct a level two assessment due to an E. coli MCL violation shall include in the report the following text, filling in the blanks accordingly, and shall include the text in paragraph (G)(7)(b)(iii) if applicable:

(i) "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.

(ii) 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."

(iii) Any system that has failed to complete the required assessment 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:

(a) "We failed to conduct the required assessment."

(b) "We failed to correct all significant deficiencies that were identified during the assessment that we conducted."

(c) If a public water system detects E. coli and has violated the E. coli MCL, in addition to completing the table as required in paragraph (D) of this rule, the system shall include one or more of the following statements to describe any noncompliance, as applicable:

(i) "We had an E. coli-positive repeat sample following a total coliform-positive routine sample."

(ii) "We had a total coliform-positive repeat sample following an E. coli-positive routine sample."

(iii) "We failed to collect all required repeat samples following an E. coli-positive routine sample."

(iv) "We failed to test for E. coli when a repeat sample tested positive for total coliform."

(d) If a public water system detects E. coli and has not violated the E. coli MCL, in addition to completing the table as required in paragraph (D) of this rule, 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.

[Comment: The 40 C.F.R. 141.40 and 141.41 refers to the "Code of Federal Regulations" published on May 2, 2012 and December 5, 1994. Copies of these codes may be obtained from the "U.S. Government Bookstore" toll-free at (866) 512-1800 or https://www.gpo.gov/fdsys, or from "Ohio EPA Lazarus Government Center, 50 West Town Street, Suite 700, Columbus, OH 43215," (614) 644-2752. The code is available for review at, "Ohio EPA, Lazarus Government Center, 50 West Town Street, Suite 700, Columbus, OH 43215."]

Effective:

Five Year Review (FYR) Dates: 01/15/2016

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Certification

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Date

Promulgated Under:	119.03
Statutory Authority:	6109.04
Rule Amplifies:	6109.03, 6109.04
Prior Effective Dates:	05/01/02, 09/01/03, 08/01/05, 07/24/09, 01/01/10, 10/31/10

APPENDIX TO RULE 3745-96-02 -- REGULATED CONTAMINANTS TABLE

Key

AL=Action Level
MCL=Maximum Contaminant Level
MCLG=Maximum Contaminant Level Goal
MFL=million fibers per liter
mrem/year=millirems per year (a measure of radiation absorbed by the body)
MRDL= Maximum Residual Disinfectant Level
MRDLG=Maximum Residual Disinfectant Level Goal
NTU=Nephelometric Turbidity Units
pCi/L=picocuries per liter (a measure of radioactivity)
mg/L=milligrams per liter; or ppm, parts per million
µg/L micrograms per liter; or ppb, parts per billion
ng/L= nanograms per liter; or ppt, parts per trillion
ppq=parts per quadrillion; or picograms per liter
TT=Treatment Technique

Contaminant/Chemical	MCL in compliance Units	to convert for CCR, multiply by	MCL in CCR units	MCLG in CCR Units	Major Sources in Drinking Water	Health Effects Language
Microbiological Contaminants						
Total Coliform Bacteria †	MCL: systems that collect 40 or more samples per month, 5% of monthly ~~positive~~ samples are positive; systems that collect fewer than 40 samples per month, 1 positive monthly sample.			0	Naturally present in the environment	Coliforms are bacteria which 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.
Total Coliform Bacteria ‡	TT	-	TT	N/A	Naturally present in the environment	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 assessment(s) to identify problems and to correct any problems that were found during these assessments.

Contaminant/Chemical	MCL in compliance Units	to convert for CCR, multiply by	MCL in CCR units	MCLG in CCR Units	Major Sources in Drinking Water	Health Effects Language
Fecal coliform and *E. coli* †	0	~~MCL: a routine sample and a repeat sample are total coliform positive, and one is also fecal coliform or *E. coli* positive~~	0	0	Human and animal fecal waste	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, some of the elderly and people with severely compromised immune systems.
E. coli ‡	Routine and repeat samples are total coliform-positive and either is E. coli-positive or system fails to take repeat samples following E. coli-positive routine sample or system fails to analyze total coliform-positive repeat sample for E. coli.	-	Routine and repeat samples are total coliform-positive and either is E. coli-positive or system fails to take repeat samples following E. coli-positive routine sample or system fails to analyze total coliform-positive repeat sample for E. coli.	0	Human and animal fecal waste	*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 special health risk for infants, young children, the elderly and people with severely compromised immune systems.

Contaminant/Chemical	MCL in compliance Units	to convert for CCR, multiply by	MCL in CCR units	MCLG in CCR Units	Major Sources in Drinking Water	Health Effects Language
Fecal Indicators (enterococci or coliphage)	TT		TT	N/A	Human and animal fecal waste	Fecal indicators are microbes whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term health effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.
Total Organic Carbon	TT		TT	~~n/a~~N/A	Naturally present in the environment.	Total organic carbon(TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection by-products. These by-products include trihalomethanes (THM) and haloacetic acids (HAAs). Drinking water containing these by-products 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	TT (NTU)	-	TT (NTU)	~~n/a~~N/A	Soil runoff	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 which can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

† Until March 31, 2016
‡ Beginning April 1, 2016

Radioactive Contaminants						
Beta/photon emitters	4 mrem/yr	-	4mem/yr (AL=50 pCi/L)	0	Decay of natural and man-made deposits	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	15 pCi/L	-	15 pCi/L	0	Erosion of natural deposits	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.

Contaminant/Chemical	MCL in compliance Units	to convert for CCR, multiply by	MCL in CCR units	MCLG in CCR Units	Major Sources in Drinking Water	Health Effects Language
Combined radium	5 pCi/L	-	5 pCi/L	0	Erosion of natural deposits	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	30 µg/L	-	30 µg/L	0	Erosion of natural deposits	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.
Inorganic Contaminants						
Antimony	.006 mg/L	1000	6 µg/L	6 µg/L	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder	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	0.010 mg/L[1]	1000	10 µg/L	0[1]	Erosion of natural deposits; Runoff from orchards; Runoff from glass and electronics production wastes	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	7 MFL	-	7 MFL	7 MFL	Decay of asbestos cement water mains; Erosion of natural deposits	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	2 mg/L	-	2 mg/L	2 mg/L	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
Beryllium	.004 mg/L	1000	4 µg/L	4 µg/L	Discharge from metal refineries and coal-burning factories; Discharge from electrical, aerospace, and defense industries	Some people who drink water containing beryllium well in excess of the MCL over many years could develop intestinal lesions.
Bromate	0.01 mg/L	1000	10 µg/L	0	By-product of drinking water chlorination.	Some people who drink water containing bromate in excess of the MCL over many years may have an increased risk of getting cancer.

Contaminant/Chemical	MCL in compliance Units	to convert for CCR, multiply by	MCL in CCR units	MCLG in CCR Units	Major Sources in Drinking Water	Health Effects Language
Cadmium	.005 mg/L	1000	5 µg/L	5 µg/L	Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries; Runoff from waste batteries and paints	Some people who drink water containing cadmium in excess of the MCL over many years could experience kidney damage.
Chlorite	1 mg/L		1 mg/L	0.8 mg/L	By-product of drinking water chlorination.	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	.1 mg/L	1000	100 µg/L	100 µg/L	Discharge from steel and pulp mills; Erosion of natural deposits	Some people who drink water containing chromium in well in excess of the MCL over many years could experience allergic dermatitis.
Copper	AL=1.3 mg/L	-	AL=1.3 mg/L	AL=1.3 mg/L	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives	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	.2 mg/L	1000	200 µg/L	200 µg/L	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories	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	4 mg/L	-	4 mg/L	4 mg/L	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums.

Contaminant/Chemical	MCL in compliance Units	to convert for CCR, multiply by	MCL in CCR units	MCLG in CCR Units	Major Sources in Drinking Water	Health Effects Language
Lead	AL=0.015 mg/L	1000	AL=15 µg/L	0	Corrosion of household plumbing systems; Erosion of natural deposits	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 [inorganic]	.002 mg/L	1000	2 µg/L	2 µg/L	Erosion of natural deposits; Discharge from refineries and factories; Runoff from landfills; Runoff from cropland	Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.
Nickel	.1 mg/L	1000	100 µg/L	100 µg/L	Erosion of natural deposits; Discharge from electroplating, stainless steel, and alloy products; Mining and refining operations.	Some people who drink water containing nickel in excess of the MCL over many years could experience problems with their heart or liver.
Nitrate	10 mg/L	-	10 mg/L	10 mg/L	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	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	1 mg/L	-	1 mg/L	1 mg/L	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits	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	.05 mg/L	1000	50 µg/L	50 µg/L	Discharge from petroleum and metal refineries; Erosion of natural deposits; Discharge from mines	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	.002 mg/L	1000	2 µg/L	0.5 µg/L	Leaching from ore-processing sites; Discharge from electronics, glass, and drug factories	Some people who drink water containing thallium in excess of the MCL over many years could experience hair loss, changes in their blood, or problems with their kidneys, intestines, or liver.
Synthetic Organic Contaminants including Pesticides and Herbicides						

Contaminant/Chemical	MCL in compliance Units	to convert for CCR, multiply by	MCL in CCR units	MCLG in CCR Units	Major Sources in Drinking Water	Health Effects Language
2,4-D	.07 mg/L	1000	70 µg/L	70 µg/L	Runoff from herbicide used on row crops	Some people who drink water containing the weed killer 2,4-D well in excess of the MCL over many years could experience problems with their kidneys, liver, or adrenal glands.
2,4,5-TP [Silvex]	.05 mg/L	1000	50 µg/L	50 µg/L	Residue of banned herbicide	Some people who drink water containing silvex in excess of the MCL over many years could experience liver problems.
Acrylamide	TT	-	TT	0	Added to water during sewage/ wastewater treatment	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	.002 mg/L	1000	2 µg/L	0	Runoff from herbicide used on row crops	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, experience anemia, and may have an increased risk of getting cancer.
Atrazine	.003 mg/L	1000	3 µg/L	3 µg/L	Runoff from herbicide used on row crops	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]	.0002 mg/L	1,000,000	200 nanograms/L	0	Leaching from linings of water storage tanks and distribution lines	Some people who drink water containing benzo(a)pyrene in excess of the MCL over many years may experience reproductive difficulties or may have an increased risk of getting cancer.
Carbofuran	.04 mg/L	1000	40 µg/L	40 µg/L	Leaching of soil fumigant used on rice and alfalfa	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	.002 mg/L	1000	2 µg/L	0	Residue of banned termiticide	Some people who drink water containing chlordane in excess of the MCL over many years could experience problems with their liver, blood, or nervous system, and may have an increased risk of getting cancer.
Dalapon	.2 mg/L	1000	200 µg/L	200 µg/L	Runoff from herbicide used on rights of way	Some people who drink water containing dalapon well in excess of the MCL over many years could experience minor kidney changes.

Contaminant/Chemical	MCL in compliance Units	to convert for CCR, multiply by	MCL in CCR units	MCLG in CCR Units	Major Sources in Drinking Water	Health Effects Language
Di(2-ethylhexyl) adipate	.4 mg/L	1000	400 µg/L	400 µg/L	Discharge from chemical factories	Some people who drink water containing di (2-ethylhexyl) adipate well in excess of the MCL over many years could experience general toxic effects or reproductive difficulties.
Di(2-ethylhexyl) phthalate	.006 mg/L	1000	6 µg/L	0	Discharge from rubber and chemical factories	Some people who drink water containing di (2-ethylhexyl) phthalate 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	.0002 mg/L	1,000,000	200 nanograms/L	0	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards	Some people who drink water containing DBCP in excess of the MCL over many years could experience reproductive problems and may have an increased risk of getting cancer.
Dinoseb	.007 mg/L	1000	7 µg/L	7 µg/L	Runoff from herbicide used on soybeans and vegetables	Some people who drink water containing dinoseb well in excess of the MCL over many years could experience reproductive difficulties.
Diquat	.02 mg/L	1000	20 µg/L	20 µg/L	Runoff from herbicide use	Some people who drink water containing diquat in excess of the MCL over many years could get cataracts.
Dioxin [2,3,7,8-TCDD]	.00000003 mg/L	1,000,000,000	30 ppq	0	Emissions from waste incineration and other combustion; Discharge from chemical factories	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.
Endothall	.1 mg/L	1000	100 µg/L	100 µg/L	Runoff from herbicide use	Some people who drink water containing endothall in excess of the MCL over many years could experience problems with their stomach or intestines.
Endrin	.002 mg/L	1000	2 µg/L	2 µg/L	Residue of banned insecticide	Some people who drink water containing endrin in excess of the MCL over many years could experience liver problems.
Epichlorohydrin	TT	-	TT	0	Discharge from industrial chemical factories; An impurity of some water treatment chemicals	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.

Contaminant/Chemical	MCL in compliance Units	to convert for CCR, multiply by	MCL in CCR units	MCLG in CCR Units	Major Sources in Drinking Water	Health Effects Language
Ethylene dibromide	.00005 mg/L	1,000,000	50 nanograms/L	0	Discharge from petroleum refineries	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	.7 mg/L	1000	700 µg/L	700 µg/L	Runoff from herbicide use	Some people who drink water containing glyphosate in excess of the MCL over many years could experience problems with their kidneys or adverse reproductive difficulties.
Heptachlor	.0004 mg/L	1,000,000	400 nanograms/L	0	Residue of banned pesticide	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	.0002 mg/L	1,000,000	200 nanograms/L	0	Breakdown of heptachlor	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	.001mg/L	1000	1 µg/L	0	Discharge from metal refineries and agricultural chemical factories	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	.05 mg/L	1000	50 µg/L	50 µg/L	Discharge from chemical factories	Some people who drink water containing hexachlorocyclopentadiene well in excess of the MCL over many years could experience problems with their stomach or kidneys.
Lindane	.0002 mg/L	1,000,000	200 nanograms/L	200 nanograms/L	Runoff/leaching from insecticide used on cattle, lumber, gardens	Some people who drink water containing lindane in excess of the MCL over many years could experience problems with their kidneys or liver.
Methoxychlor	.04 mg/L	1000	40 µg/L	40 µg/L	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock	Some people who drink water containing methoxychlor in excess of the MCL over many years could experience reproductive difficulties.
Oxamyl [Vydate]	.2 mg/L	1000	200 µg/L	200 µg/L	Runoff/leaching from insecticide used on apples, potatoes and tomatoes	Some people who drink water containing oxamyl in excess of the MCL over many years could experience slight nervous system effects.

Contaminant/Chemical	MCL in compliance Units	to convert for CCR, multiply by	MCL in CCR units	MCLG in CCR Units	Major Sources in Drinking Water	Health Effects Language
PCBs [Polychlorinated biphenyls]	.0005 mg/L	1,000,000	500 nanograms/L	0	Runoff from landfills; Discharge of waste chemicals	Some people who drink water containing PCBs 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	.001 mg/L	1000	1 µg/L	0	Discharge from wood preserving factories	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	.5 mg/L	1000	500 µg/L	500 µg/L	Herbicide runoff	Some people who drink water containing picloram in excess of the MCL over many years could experience problems with their liver.
Simazine	.004 mg/L	1000	4 µg/L	4 µg/L	Herbicide runoff	Some people who drink water containing simazine in excess of the MCL over many years could experience tremors or have problems with their blood.
Toxaphene	.003 mg/L	1000	3 µg/L	0	Runoff/leaching from insecticide used on cotton and cattle	Some people who drink water containing toxaphene in excess of the MCL over many years could have problems with their thyroid, kidneys, or liver and may have an increased risk of getting cancer.
Volatile Organic Contaminants						
Benzene	.005 mg/L	1000	5 µg/L	0	Discharge from factories; Leaching from gas storage tanks and landfills	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	.005 mg/L	1000	5 µg/L	0	Discharge from chemical plants and other industrial activities	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	.1 mg/L	1000	100 µg/L	100 µg/L	Discharge from chemical and agricultural chemical factories	Some people who drink water containing chlorobenzene in excess of the MCL over many years could experience problems with their kidneys or liver.
o-Dichlorobenzene	.6 mg/L	1000	600 µg/L	600 µg/L	Discharge from industrial chemical factories	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.

Contaminant/Chemical	MCL in compliance Units	to convert for CCR, multiply by	MCL in CCR units	MCLG in CCR Units	Major Sources in Drinking Water	Health Effects Language
p-Dichlorobenzene	.075 mg/L	1000	75 µg/L	75 µg/L	Discharge from industrial chemical factories	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	.005 mg/L	1000	5 µg/L	0	Discharge from industrial chemical factories	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	.007 mg/L	1000	7 µg/L	7 µg/L	Discharge from industrial chemical factories	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	.07 mg/L	1000	70 µg/L	70 µg/L	Discharge from industrial chemical factories	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-Dichloroethylene	.1 mg/L	1000	100 µg/L	100 µg/L	Discharge from industrial chemical factories	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	.005 mg/L	1000	5 µg/L	0	Discharge from pharmaceutical and chemical factories	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	.005 mg/L	1000	5 µg/L	0	Discharge from industrial chemical factories	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	.7 mg/L	1000	700 µg/L	700 µg/L	Discharge from petroleum refineries	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)	.06 mg/L	1000	60 µg/L	n/a	By-product of drinking water disinfection.	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	.1 mg/L	1000	100 µg/L	100 µg/L	Discharge from rubber and plastic factories; Leaching from landfills	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.

Contaminant/Chemical	MCL in compliance Units	to convert for CCR, multiply by	MCL in CCR units	MCLG in CCR Units	Major Sources in Drinking Water	Health Effects Language
Tetrachloroethylene	.005 mg/L	1000	5 µg/L	0	Discharge from factories and dry cleaners	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	.07 mg/L	1000	70 µg/L	70 µg/L	Discharge from textile-finishing factories	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	.2 mg/L	1000	200 µg/L	200 µg/L	Discharge from metal degreasing sites and other factories	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	.005 mg/L	1000	5 µg/L	3 µg/L	Discharge from industrial chemical factories	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	.005 mg/L	1000	5 µg/L	0	Discharge from metal degreasing sites and other factories	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.
TTHMs [Total trihalomethanes]	.08 mg/L	1000	80 łµg/L	n/a	By-product of drinking water chlorination	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	1 mg/L	-	1 mg/L	1 mg/L	Discharge from petroleum factories	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	.002 mg/L	1000	2 µg/L	0	Leaching from PVC piping; Discharge from plastics factories	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	10 mg/L	-	10 mg/L	10 mg/L	Discharge from petroleum factories; Discharge from chemical factories	Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system.
Residual Disinfectants						

Contaminant/Chemical	MCL in compliance Units	to convert for CCR, multiply by	MCL in CCR units	MCLG in CCR Units	Major Sources in Drinking Water	Health Effects Language
Chloramine	MRDL = 4 mg/L		MRDL = 4 mg/L	MRDLG = 4 mg/L	Water additive used to control microbes.	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 the excess of the MRDL could experience stomach discomfort or anemia.
Chlorine	MRDL = 4 mg/L		MRDL = 4 mg/L	MRDLG = 4 mg/L	Water additive used to control microbes.	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	MRDL = .8 mg/L	1000	MRDL= 800 µg/L	MRDLG = 800 µg/L	Water additive used to control microbes.	Some infants and young children who drink water containing chlorine dioxide in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorine dioxide in excess of the MCL. Some people may experience anemia.

† Until March 31, 2016
‡ Beginning April 1, 2016