Effective Date: May 26, 2004

TABLE 1-Inorganic Chemicals And Physical Characteristics Maximum Contaminant Level Determination

Contaminants	MCL (mg/l)[4]	Determination of MCL violation
Asbestos	7.0 Million fibers/liter (MFL) (Longer than 10 microns)	
Antimony	0.006	
Arsenic	0.05	
Barium	2.00	
Beryllium	0.004	
Cadmium	0.005	
Chromium	0.10	
Cyanide (as free Cyanide)	0.2	If the results of a monitoring sample analysis exceed the MCL, the supplier of water shall collect one more sample from the same sampling point within 2 weeks or as soon as practical. An MCL violation occurs when the average[1] of the two results exceeds the MCL.
Mercury	0.002	
Selenium	0.05	
Silver	0.1	
Thallium	0.002	
Fluoride	2.2	
Chloride	250.0	
Iron	0.3[2]	
Manganese	0.3[2]	
Sodium	No designated limits[3]	
Sulfate	250.0	
Zinc	5.0	
Color	15 Units	
Odor	3 Units	
Bromate[5]	0.010	Compliance is based on a running annual average of monthly samples, computed quarterly. If the average of samples covering any consecutive four-quarter period exceeds the MCL, the system is in violation of the MCL and must notify the public.

Chlorite[6]	1.0	Compliance is based on an average of each three-sample set taken in the distribution system in accordance with Table 8B. If the average exceeds the MCL, the system is in violation of the MCL and must notify the public.

Table 1 Footnote 1 Rounded to the same number of significant figures as the MCL for the contaminant in question.

Table 1 Footnote 2 If iron and manganese are present, the total concentration of both should not exceed 0.5 mg/l. Higher levels may be allowed by the State when justified by the supplier of water.

Table 1 Footnote 3 Water containing more than 20 mg/l of sodium should not be used for drinking by people on severely restricted sodium diets.
Water containing more than 270 mg/l of sodium should not be used for drinking by people on moderately restricted sodium diets.

Table 1 Footnote 4 mg/l = Milligrams per liter.

Table 1 Footnote 5 Community and nontransient noncommunity systems using ozone for disinfection or oxidation must comply with the bromate standard. Systems using surface water or ground water under the direct influence of surface water and serving 10,000 or more people must comply by January 1, 2002. Systems using surface water or ground water under the direct influence of surface water and serving fewer than 10,000 people, or systems using ground water must comply by January 1, 2004.

Table 1 Footnote 6 Community and nontransient noncommunity systems using chlorine dioxide as a disinfectant or oxidant must comply with the chlorite standard. Systems using surface water or ground water under the direct influence of surface water and serving 10,000 or more people must comply by January 1, 2002. Systems using surface water or ground water under the direct influence of surface water and serving fewer than 10,000 people, or systems using ground water must comply by January 1, 2004.

Effective Date: May 26, 2004

TABLE 2-Nitrate, Nitrate, Total Nitrate/Nitrate Maximum Contaminant Level Determination

Contaminant	MCL	Determination of MCL violation
Nitrate	10 (as Nitrogen)[1]	If the results of a monitoring sample analysis exceed the MCL, the supplier of water shall collect another sample from the same sampling point, within 24 hours of the receipt of results or as soon as
Nitrite	1 (as Nitrogen)	

Total Nitrate and Nitrite 10 (as Nitrogen)	practical.[2] An MCL violation occurs when the average of the two results exceeds the MCL.

Table 2 Footnote 1 An MCL of 20 mg/l may be permitted at a noncommunity water system if the supplier of water demonstrates that:

a. the water will not be available to children under six months of age;
b. a notice that nitrate levels exceed 10 mg/l and the potential health effects of exposure will be continuously posted according to the requirements of a Tier 1 notification;
c. the State will be notified annually of nitrate levels that exceed 10 mg/l; and
d. no adverse health effects shall result.

Table 2 Footnote 2 Systems unable to collect an additional sample within 24 hours must issue a Tier 1 notification and must collect the additional sample within two weeks of receiving the initial sample results.

Effective Date: May 26, 2004

TABLE 3-ORGANIC CHEMICALS
MAXIMUM CONTAMINANT LEVEL DETERMINATION

Contaminant	**MCL (mg/l)**	**Type of water system**	**Determination of MCL violation**
General Organic Chemicals			If the results of a monitoring sample analysis exceed the MCL, the supplier of water shall collect one to three more samples from the same sampling point, as soon as practical, but within 30 days. An MCL violation occurs when at least one of the confirming samples is positive and the average of all confirming samples and the initial sample exceeds the MCL.
Principal organic contaminant (POC)	0.005	Community, NTNC and Noncommunity	
Unspecified organic contaminant (UOC)	0.05		
Total POCs and UOCs	0.1		

		Community and NTNC	The results of all analyses per quarter must be arithmetically averaged and must be reported to the State within 30 days of the public water system's receipt of the analyses. A violation occurs if the average of the four most recent sets of quarterly samples (12-month running average) exceeds the MCL. If a system fails to complete four consecutive quarters of monitoring, compliance with the MCL will be based on an average of the available data. For systems monitoring less than quarterly, compliance must be based on an average of samples taken that year. If, during the first year of monitoring, any individual quarter's average will cause the annual average of that system to exceed the MCL the system is out of compliance at the end of that quarter.
Disinfection Byproducts[1,2]			
Total trihalomethanes	0.08		
Haloacetic Acids	0.06		
		Transient Noncommunity	Not applicable.
Specific Organic Chemicals		Community, NTNC and Noncommunity	If the results of a monitoring sample analysis exceed the MCL, the supplier of water shall collect one to three more samples from the same sampling point, as soon as practical, but within 30 days. An MCL violation occurs when at least one of the confirming samples is positive and the average of the initial sample and all confirming samples exceeds the MCL.
Alachlor	.002		
Aldicarb	.003		
Aldicarb sulfone	.002		
Aldicarb sulfoxide	.004		
Atrazine	.003		
Benzo(a)pyrene	.0002		
Carbofuran	.04		
Chlordane	.002		
Di (2-ethylhexyl) phthalate	.006		
Dibromochloropropane (DBCP)	.0002		

2,4-D	.05
Dinoseb	.007
Diquat	.02
Endrin	.002
Ethylene dibromide (EDB)	.00005
Heptachlor	.0004
Heptachlor epoxide	.0002
Hexachlorobenzene	.001
Lindane	.0002
Methoxychlor	.04
Methyl-tertiary-butyl-ether (MTBE)	.010
Pentachlorophenol	.001
Polychlorinated biphenyls (PCBs)	.0005
Propylene Glycol	1
Simazine	.004
Toxaphene	.003
2,4,5-TP (Silvex)	.01
2,3,7,8-TCDD (Dioxin)	.00000003
Vinyl Chloride	.002

Table 3 Footnote 1 Systems using surface water or ground water under the direct influence of surface water and serving 10,000 or more people must comply with the disinfection byproducts standards by January 1, 2002. Systems using surface water or ground water under the direct influence of surface water and serving fewer than 10,000 people, or systems using ground water must comply by January 1, 2004. Until then, community water systems serving fewer than 10,000 persons must comply with an MCL of 0.1 mg/L for total trihalomethanes.

Table 3 Footnote 2 A system that is installing granular activated carbon (GAC) or membrane technology to comply with the trihalomethane and haloacetic acid MCLs may apply to the State for an extension of up to 24 months past the compliance dates for those MCLs. Systems must comply with any interim measures and schedules of compliance set by the State.

Effective Date: May 26, 2004

TABLE 3A-Maximum Residual Disinfectant Level (MRDL) Determination

Disinfectant	MRDL[1] (mg/L)	Type of water system	Determination of MRDL violation
Chlorine	4.0 (as Cl_2)	Community and NTNC using chlorine or chloramines as disinfectant or oxidant	Compliance is based on a running annual arithmetic average, computed quarterly, of monthly averages of all samples collected by the system. If the running annual average exceeds the MRDL, the system is in violation and must notify the public. Public Health Hazard (Acute Violation)
Chloramines[2]	4.0 (as Cl_2)		
Chlorine Dioxide	0.8 (as ClO_2)	Community, NTNC, and Transient Noncommunity using chlorine dioxide as disinfectant or oxidant	Compliance is based on daily samples collected by the system. If any daily sample taken at the entrance to the distribution system exceeds the MRDL, and on the following day one (or more) of the three samples taken in the distribution system exceeds the MRDL, the system is in violation. Nonacute Violation Compliance is based on daily samples collected by the system. If any two consecutive daily samples taken at the entrance to the distribution system exceed the MRDL, and all distribution system samples taken are below the MRDL, the system is in violation.

Table 3A Footnote 1 Systems using surface water or ground water under the direct influence of surface water and serving 10,000 or more people must comply by January 1, 2002. Systems using surface water or ground water under the direct influence of surface water and serving fewer than 10,000 people, or systems using ground water must comply by January 1, 2004.

Table 3A Footnote 2 In cases where systems switch between the use of chlorine and chloramines for

residual disinfection during the year, compliance must be determined by including together all monitoring results of both chlorine and chloramines.

TABLE 4-ENTRY POINT TURBIDITY
MAXIMUM CONTAMINANT LEVEL DETERMINATION[1]

Contaminant	MCL	Determination of MCL violation
Entry point turbidity (surface water and ground water directly influenced by surface water)	1 NTU[2] [4] (Monthly Average)	A violation occurs when the average of all daily entry point analyses for the month exceeds the MCL rounded off to the nearest whole number
	5 NTU [3] [4]	A violation occurs when the average of two consecutive daily entry point analyses exceeds the MCL rounded off to the nearest whole number.

Table 4 Footnote 1 The requirements of this table apply to unfiltered systems that the State has determined, in writing pursuant to section 5-1.30 of this Subpart, must install filtration, until filtration is installed.

Table 4 Footnote 2 If the daily entry point analysis exceeds one NTU, a repeat sample must be taken as soon as practicable and preferably within one hour. If the repeat sample exceeds one NTU, the supplier of water must make State notification. The repeat sample must be used for the monthly average and the two consecutive day average.

Table 4 Footnote 3 If the two consecutive day average exceeds the MCL, the supplier of water shall analyze for microbiological contamination at a point downstream of the first consumer, but as close to the first consumer as is feasible. The additional microbiological sample should be taken within one hour as soon as feasible after determining the two consecutive day average. The supplier of water shall report the result of this microbiological analysis to the State within 48 hours of obtaining the result. The result of this analysis shall not be used for monitoring purposes.

Table 4 Footnote 4 NTU = Nephelometric Turbidity Units

Effective Date: May 26, 2004

TABLE 4A-Surface Water Turbidity Performance Standards [1]

Contaminant	Filtration type	Performance standard[1]	Determination of treatment technique	
Filtered water turbidity	Conventional filtration>	0.3 NTU[2,4,5]	A treatment technique violation occurs if more than five percent of the composite filter effluent measurements taken each month exceed the performance standard values. The turbidity level of representative samples of the filtered water must at no time exceed 5.0 NTU.	The turbidity level of representative samples of the filtered water must at no time exceed 1 NTU.[4,5]
	Slow sand filtration	1.0 NTU[3]	A treatment technique violation occurs if more than five percent of the composite filter effluent measurements taken each month exceed the performance standard values.	The turbidity level of representative samples of the filtered water must at no time exceed 5 NTU.
	Diatomaceous earth filtration	1.0 NTU[3]		
	Alternative Filtration	1.0 NTU[2,3]		

Table 4A Footnote 1 The standards apply to systems with surface water sources or ground water sources directly influenced by surface water.

Table 4A Footnote 2 NTU = Nephelometric Turbidity Unit.

Table 4A Footnote 3 The performance standard applies to alternative filtration technologies capable of complying with requirement of section 5-1.30(b) of this Subpart as demonstrated to the department by pilot studies, unless the department sets a turbidity performance standard for a specific system.

Table 4A Footnote 4 Systems serving 10,000 or more people must comply by January 1, 2002. If the combined filter effluent turbidity exceeds 1 NTU, the system must consult with the State in accordance with paragraph 5-1.78(d)(3) of this Subpart.

Table 4A Footnote 5 Systems serving fewer than 10,000 people must comply by January 14, 2005. If the

combined filter effluent turbidity exceeds 1 NTU, the system must consult with the State in accordance with paragraph 5-1.78(d)(3) of this Subpart. Until January 14, 2005, the performance standard is 0.5 NTU and the turbidity level of representative samples of the filtered water must at no time exceed 5.0 NTU.

TABLE 5-DISTRIBUTION SYSTEM TURBIDITY
MAXIMUM CONTAMINANT LEVEL DETERMINATION

Contaminant	**MCL**	**Determination of MCL violation**
Distribution point turbidity	5 NTU	A violation occurs when the monthly average of the results of all distribution samples collected in any calendar month exceeds the MCL rounded off to the nearest whole number.

TABLE 6-MICROBIOLOGICAL CONTAMINANTS
MAXIMUM CONTAMINANT LEVELS DETERMINATION

Contaminant	MCL[1] [2]	Determination of MCL Violation
Total coliform	Any positive sample.[3]	A violation occurs at systems collecting 40 or more samples per month when more than 5.0 percent of the total coliform samples are positive.
		A violation occurs at systems collecting less than 40 samples per month when two or more samples are total coliform positive.
Escherichia coli (E. coli)	Any positive sample	A violation occurs when a total coliform positive sample is positive for *Escherichia coli (E. coli)* and a repeat total coliform sample is positive or when a total coli form positive sample is negative for *Escherichia coli (E. coli)* but a repeat total coliform sample is positive and the sample is also positive for *Escherichia coli (E. coli)*.[4]

Table 6 Footnote 1 Compliance with the MCL for total coliform must be made by a public water system each month the system is required to monitor for total coliform.

Table 6 Footnote 2 All samples collected in accordance with table 11 footnotes 1 , 2 , 4 and 5 of this section and samples collected in accordance with subdivison (f) of section 5-1.51 of this Subpart shall be included in determining compliance with the MCL unless the sample has been invalidated by the State.

Table 6 Footnote 3 If any total coliform sample is positive a set of repeat samples must be collected in

accordance with table 11 of this section.

Table 6 Footnote 4 For notification purpose, an *Escherichia coli (E. coli)* MCL violation is a public health hazard.

TABLE 7-RADIOLOGICAL
MAXIMUM CONTAMINANT LEVEL DETERMINATION

Contaminant	MCL	Type of water system	Determination of MCL violation
Combined radium-226 and radium-228	5 picocuries per liter	Community	A violation occurs when the annual composite of four quarterly samples or the average of the analysis of four quarterly samples exceeds the MCL.
Gross alpha activity (including radium-226 but excluding radon and uranium)	15 picocuries per liter	Noncommunity	Not Applicable
Beta particle and photon radio activity from manmade radio nuclides	Four millirems per year as the annual dose equivalent to the total body or any internal organ. The department shall determine the concentration capable of producing four millirems per year.	Community using surface water serving more than 100,000 people	A violation occurs when the annual composite of four quarterly samples or the average of the analyses of four quarterly samples exceeds the MCL.
		Community using surface source serving 100,000 or fewer people or community using ground water.	Not applicable
		Noncommunity	Not applicable

Table 8A. Inorganic Chemicals and Physical Characteristics
Minimum Monitoring Requirements For Asbestos

Contaminant	Type of water system	Initial Frequency by Source Type[5]		Repeat sampling and compliance
		Ground water only	Surface and groundwater	

Asbestos[1]	Community and NTNC	One sample at entry point by 12/31/95[2,3,4]	One sample at entry point by 12/31/95[2,3,4]	If GT MCL, one sample quarterly[6,7] If LT MCL, one sample every nine years

GT - Greater Than LT - Less than

Table 8A Footnote 1 If a system is not vulnerable to asbestos contamination, either at its source or due to corrosion of asbestos cement pipe, it is not required to monitor if granted a waiver by the state. The waiver must be renewed by the state every nine years. The basis for a waiver must include the following:

a. Lack of potential asbestos contamination of the water source
b. No use of asbestos cement pipe for finished water distribution and noncorrosive nature of the water.

Table 8A Footnote 2 If asbestos monitoring data collected after January 1, 1990 are consistent with the requirements of this table, the State may allow systems to use that data to satisfy the initial monitoring requirement beginning January 1, 1993.

Table 8A Footnote 3 If a system is vulnerable to asbestos contamination due to source water and corrosion of asbestos cement pipe or solely to corrosion of asbestos cement pipe, it shall take one sample at a tap served by asbestos cement pipe and under conditions where asbestos contamination is most likely to occur.

Table 8A Footnote 4 If a system is vulnerable to asbestos contamination due to source water only, monitoring shall be conducted as follows:

Groundwater - Collect a minimum of one sample at each entry point to the distribution system representative of each well after treatment.

Surface water - Collect a minimum of one sample at each entry point to the distribution system after any application of treatment or in the distribution system at a point which is representative of each source after treatment.

Table 8A Footnote 5 For both types of water sources the system shall take each sample at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant. If a system draws water from more than one source and the sources are combined before distribution; the system must sample at an entry point to the distribution system during periods of normal operating conditions when water is representative of all sources.

Table 8A Footnote 6 A system which exceeds the MCL for asbestos shall monitor quarterly beginning in the next quarter after the violation occurred.

Table 8A Footnote 7 The State may decrease the quarterly monitoring requirement to the initial sampling requirement provided that the State has determined that the system is reliably and consistently below the MCL on the basis of a minimum of two quarterly groundwater samples and a minimum of four quarterly samples for surface water.

Effective Date: May 26, 2004

Table 8B-Inorganic Chemicals and Physical Characteristics
Minimum Monitoring Requirements

Contaminant	**Type of water system**	**Initial frequency by source type**[3] Ground water only	Surface only or surface and ground water	**Accelerated Sampling**[7]
Antimony Arsenic Barium Beryllium Cadmium Chromium Cyanide Mercury Nickel Selenium Thallium Fluoride	Community and NTNC[1,2,6]	One sample per entry point every 3 years by 12/31/95 [8]	One sample per entry point per year [9]	If GT MCL, one sample quarterly. [4,5] If LT MCL, maintain initial frequency.
	Transient Noncommunity	State discretion[10]	State discretion[10]	State discretion[10]
Bromate[11]	Community and NTNC using ozone for disinfection or oxidation	One sample per month at each entry point[13, 17,	One sample per month at each entry point[13, 17,	State discretion[10]
Chlorite[12]	Community and NTNC using chlorine dioxide for disinfection or oxidation	Daily samples at each entry point. Additional three-sample set monthly in the distribution system[14, 15, 16, 17,	Daily samples at each entry point. Additional three-sample set monthly in the distribution system[14, 15, 16, 17,	State discretion[10]

GT - Greater Than LT - Less than

Table 8B Footnote 1 A waiver from the required initial monitoring frequencies may be granted by the State, based upon the following conditions:

a. A minimum of one sample shall be collected while the waiver is effective.
b. Surface water systems must have monitored annually for at least three years and groundwater systems must have conducted a minimum of three rounds of monitoring with at least one sample taken since January 1, 1990.
c. All results must be less than the MCL.
d. New sources are not eligible for a waiver until completion of three rounds of sampling.
e. Waivers issued by the State shall be made in writing, shall cite the basis for determination and shall not exceed a maximum of nine years.

Table 8B Footnote 2 To determine the appropriate reduced monitoring frequency, the State shall consider:

a. reported concentrations from all previous monitoring.
b. variations in reported concentrations; and
c. other factors which may affect contaminant concentrations such as changes in groundwater pumping rates, changes in the system's configuration, operating procedures, stream flows or other characteristics.

Table 8B Footnote 3 For all types of water sources the system shall take each sample at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant. If a system draws water from more than one source and the sources are combined before distribution, the system must sample at an entry point to the distribution system during periods of normal operating conditions when water is representative of all sources, or separately at the individual sources. The State may allow systems to composite samples in accordance with the conditions in Appendix 5-C. All samples taken and analyzed in accordance with the monitoring plan must be included in determining compliance, even if the number is greater than the minimum required.

Table 8B Footnote 4 The State may decrease the quarterly monitoring requirement to the initial sampling requirement provided that it is determined that the system is reliably and consistently below the MCL on the basis of a minimum of two quarterly groundwater samples and a minimum of four quarterly samples for surface water.

Table 8B Footnote 5 If concentrations of a listed contaminant exceed the MCL, the Department requires the collection of an additional sample as soon as possible but not to exceed two weeks.

Table 8B Footnote 6 The State may require or the water system may request more frequent monitoring frequencies than is minimally required. The State, at its discretion, may require confirmation samples for positive and negative results.

Table 8B Footnote 7 The average of the initial and confirmation sample contaminant concentration at each sampling point shall be used to determine compliance with the MCL.

Table 8B Footnote 8 Systems with fewer than 150 service connections may postpone initial monitoring for antimony, beryllium, cyanide, nickel and thallium until 1998, but no later than three years after conducting its last result set of analysis for arsenic, barium, cadmium, mercury, selenium and fluoride.

Table 8B Footnote 9 Systems with fewer than 150 service connections may postpone initial monitoring for antimony, beryllium, cyanide, nickel and thallium until 1996.

Table 8B Footnote 10 State discretion shall mean requiring monitoring when the State has reason to believe the MCL has been violated, the potential exists for an MCL violation or the contaminant may present a risk to public health.

Table 8B Footnote 11 Community and nontransient noncommunity systems using ozone for disinfection or oxidation must comply with the bromate monitoring requirement. Systems using surface water or ground water under the direct influence of surface water and serving 10,000 or more people must comply by January 1, 2002. Systems using surface water or ground water under the direct influence of surface water and serving fewer than 10,000 people, or systems using ground water must comply by January 1, 2004.

Table 8B Footnote 12 Community and nontransient noncommunity systems using chlorine dioxide as a disinfectant or oxidant must comply with the chlorite monitoring requirement. Systems using surface water or ground water under the direct influence of surface water and serving 10,000 or more people must comply by January 1, 2002. Systems using surface water or ground water under the direct influence of surface water and serving fewer than 10,000 people, or systems using ground water must comply by January 1, 2004.

Table 8B Footnote 13 Systems required to analyze for bromate may reduce monitoring from monthly to once per quarter, if the system demonstrates that the average source water bromide concentration is less than 0.05 mg/L based on representative monthly bromide measurements for one year. A system may remain on reduced bromate monitoring until the running annual average source water bromide concentration, computed quarterly, is equal to or greater than 0.05 mg/L. If the average bromide concentration is equal to or greater than 0.05 mg/L, the system must resume routine monthly bromate monitoring.

Table 8B Footnote 14 On each day following a sample result that exceeds the chlorite MCL at the entrance to the distribution system, the system must take three chlorite distribution system samples at the following locations: as close to the first customer as possible, in a location representative of average residence time, and in a location representative of maximum residence time. The samples comprising the three-sample set required for routine monitoring must be collected at the same three locations in the distribution system that are used when following up on a daily MCL exceedance at the entry point. The system may use results of additional monitoring, conducted as the result of an entry point MCL

exceedance, to meet the requirement for routine monthly monitoring.

Table 8B Footnote 15 Daily chlorite monitoring at the entrance to the distribution system may not be reduced. Monthly chlorite monitoring in the distribution system may be reduced to one three-sample set per quarter after one year of monitoring where no individual chlorite sample taken in the distribution system has exceeded the chlorite MCL. If the system has had to conduct distribution system monitoring as a result of an MCL exceedance at the entry point, the system cannot reduce monitoring. The system may remain on a reduced monitoring schedule until either any of the three individual chlorite samples taken quarterly in the distribution system exceeds the chlorite MCL or the system is required to conduct distribution system monitoring because of an entry point chlorite MCL exceedance.

Table 8B Footnote 16 A system must monitor according to its monitoring plan as described in section 5-1.51(c) of this Subpart. Failure to monitor in accordance with the monitoring plan is a monitoring violation.

Table 8B Footnote 17 Failure to monitor will be treated as a monitoring violation for the entire period covered by an annual average where compliance is based on an annual average of monthly or quarterly samples or averages and a system's failure to monitor makes it impossible to determine MCL compliance.

TABLE 8C-INORGANIC CHEMICALS AND PHYSICAL CHARACTERISTICS
MINIMUM MONITORING REQUIREMENTS-NITRATES, NITRITES

		Initial Frequency by Source Type [1] [6]		
Contaminant	Type of water system	Ground water only	Surface only or Surface and ground water	Accelerated Sampling
Nitrate	Community and Noncommunity[2]	One sample per entry point per year	One sample per entry point quarterly beginning 1/1/93	For Groundwater: If equal to or GT 50 percent MCL, quarterly for one year[3] For Surface Water: If LT 50 percent MCL, one sample per year[3] [4]

Nitrite	Community, NTNC and Noncommunity	One sample per entry point by 12/31/95	One sample per entry point by 12/31/95	If equal to or GT 50 percent MCL, repeat quarterly for at least one year[3] [4] If LT 50 percent MCL, sample frequency at State discretion.[5]

GT - Greater Than LT - Less than

Table 8C Footnote 1 The Department may require, or the water system may request, more frequent monitoring frequencies than is minimally required. The Department, at its discretion may require confirmation samples for positive and negative results.

Table 8C Footnote 2 Noncommunity water systems must sample annually beginning 1/1/93 regardless of the water source.

Table 8C Footnote 3 The frequency may be reduced to annual if the State determines the system's contaminant concentration is consistently and reliably less than the MCL and annual samples are collected during the quarter(s) having the highest analytical results.

Table 8C Footnote 4 A surface water shall return to quarterly monitoring if any one sample is GT 50 percent of MCL.

Table 8C Footnote 5 State discretion shall mean requiring monitoring when the State has reason to believe the MCL has been violated, the potential exists for an MCL violation or the contaminant may present a risk to public health.

Table 8C Footnote 6 For both types of water sources the system shall take each sample at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant. If a system draws water from more than one source and the sources are combined before distribution, the system must sample at an entry point to the distribution system during periods of normal operating conditions when water is representative of all sources.

TABLE 8D-INORGANIC CHEMICALS AND PHYSICAL CHARACTERISTICS MINIMUM MONITORING REQUIREMENTS-OTHER CHEMICALS

Initial Frequency by and Compliance Source Type

Contaminant	Type of water system	Ground water only	Surface only or Surface and ground water	Repeat Sampling
Chloride Iron Manganese Silver Sodium[1] Sulfate Zinc Color Odor Go to MCLs	Community and NTNC	State discretion[2]	State discretion[2]	State discretion[2]

Table 8D Footnote 1 All community systems with sodium levels exceeding 20 mg/l will be required to sample for sodium analysis.

Table 8D Footnote 2 State discretion shall mean requiring monitoring when the State has reason to believe the MCL has been violated, the potential exists for an MCL violation or the contaminant may present a risk to public health.

Effective Date: May 26, 2004

TABLE 9A-ORGANIC CHEMICALS-Disinfection Byproducts
Minimum Monitoring Requirements

Surface Water Systems, Ground Water Systems Under the Direct Influence of Surface Water, or Combined Surface and Ground Water Systems

Contaminant	Type of water system	Routine Monitoring Frequency[1]	Reduced Monitoring Frequency	Sample Locations in the Distribution System[1]

				At least 25% of all samples collected each quarter at locations representing maximum residence time. Remaining samples taken at locations representative of at least average residence time in the distribution system and representing the entire distribution system.[6] If monitoring has been reduced, sample must be collected at location reflecting maximum residence time.
	Community and NTNC serving at least 10,000 persons[2]	Four samples per quarter per treatment plant [3,4]	One sample per quarter per treatment plant.[3,4,5]	
	Community and NTNC serving 500 to 9,999 persons[7]	One sample per quarter per treatment plant [3,4]	One sample per year per treatment plant during month of warmest water temperature.[5]	Location representing maximum residence time.[6]
Total Trihalomethanes Haloacetic Acids	Community and NTNC serving fewer than 500 persons[7]	One sample per year per treatment plant collected during the month of warmest water temperature. If the sample (or average of annual samples, if more than one sample is taken) exceeds the MCL, system must	Cannot reduce monitoring.	Location representing maximum residence time.[6]

	increase monitoring to one sample per treatment plant per quarter.		
Transient Noncommunity	State discretion[8]	State discretion[8]	State discretion[8]
Community and NTNC using chemical disinfectant and serving at least 10,000 persons	One sample per quarter per treatment plant.[3,4,10]	One sample per year per treatment plant during month of warmest water temperature.[9,10]	Locations representing maximum residence time.[6]
Community and NTNC using chemical disinfectant and serving fewer than 10,000 persons[7]	One sample per year per treatment plant during month of warmest water temperature.[10] If the sample (or average of annual samples, if more than one sample is taken) exceeds the MCL, system must increase monitoring to one sample per treatment plant per quarter, taken at a point reflecting the maximum residence time in the distribution system.	One sample every three years per treatment plant.[11] Sample must be collected during month of the year with the warmest water temperature.	Locations representing maximum residence time.[6]
Transient Noncommunity	State discretion[8]	State discretion[8]	State discretion[8]

Table 9A Footnote 1 A system must monitor according to its monitoring plan as described in section 5-1.51(c) of this Subpart. Failure to monitor in accordance with the monitoring plan is a monitoring violation.

Table 9A Footnote 2 Effective January 1, 2002.

Table 9A Footnote 3 Failure to monitor will be treated as a monitoring violation for the entire period covered by an annual average where compliance is based on an annual average of monthly or quarterly samples or averages and a system's failure to monitor makes it impossible to determine MCL compliance. If a system fails to complete four consecutive quarters of monitoring, compliance with the MCL will be based on an average of the available data.

Table 9A Footnote 4 If, during the first year of monitoring, any individual quarter's average will cause the annual average of that system to exceed the MCL the system is out of compliance at the end of that quarter.

Table 9A Footnote 5 System may reduce monitoring if at least one year of samples have been collected and the annual average of total THMs is less than or equal to 0.040 mg/L and the annual average of haloacetic acids is less than or equal to 0.030 mg/L. In order to be eligible for reduced monitoring, the source water annual average total organic carbon (TOC) level, before any treatment, must be less than or equal to 4.0 mg/L. Systems on a reduced monitoring schedule may remain on that reduced schedule as long as the average of all samples taken in the year is no more than 0.060 mg/L and 0.045 mg/L for total trihalomethanes and haloacetic acids, respectively. Systems that exceed these levels must resume monitoring at the routine frequency in the quarter immediately following the exceedance.

Table 9A Footnote 6 If a system elects to sample more frequently than the minimum required, at least 25% of all samples collected each quarter (including those taken in excess of the required frequency) must be taken at locations that represent the maximum residence time of the water in the distribution system. The remaining samples must be taken at locations representative of at least average residence time in the distribution system. A system must sample at locations identified in a monitoring plan approved by the State.

Table 9A Footnote 7 Effective January 1, 2004. Until then, monitoring of these systems is at State's discretion.

Table 9A Footnote 8 State discretion shall mean requiring monitoring when the State has reason to believe the MCL has been violated, the potential exists for an MCL violation or the contaminant may present a risk to public health.

Table 9A Footnote 9 System may switch from routine monitoring to reduced monitoring if at least one year of samples have been collected and the annual average of total THMs is less than or equal to 0.040 mg/L and the annual average of haloacetic acids is less than or equal to 0.030 mg/L. Systems on a reduced monitoring schedule may remain on that reduced schedule as long as the result of the sample for the year is no more than 0.060 mg/L and 0.045 mg/L for total trihalomethanes and haloacetic acids, respectively. Systems that exceed these levels must resume quarterly monitoring in the quarter immediately following the exceedance.

Table 9A Footnote 10 The State may allow multiple wells drawing water from a single aquifer to be considered one treatment plant for determining the minimum number of samples required.

Table 9A Footnote 11 System may reduce monitoring if at least one year of samples have been collected and the annual average of total THMs is less than or equal to 0.040 mg/L and the annual average of haloacetic acids is less than or equal to 0.030 mg/L for two consecutive years, or if the annual average of total THMs is less than or equal to 0.020 mg/L and the annual average of haloacetic acids is less than 0.015 mg/L for one year. If a system qualifies for reduced monitoring, the three-year cycle will begin on January 1 following the quarter in which the system qualifies. Systems on a reduced monitoring schedule may remain on that reduced schedule as long as the result of the last sample is no more than 0.060 mg/L and 0.045 mg/L for total trihalomethanes and haloacetic acids, respectively. Systems that exceed these levels must resume yearly monitoring in the year immediately following the exceedance.

Effective Date: December 24, 2003

TABLE 9B-ORGANIC CHEMICALS-POCs, VINYL CHLORIDE, Methyl-tertiary-butyl-ether (MTBE), UOCs, Propylene Glycol
MINIMUM MONITORING REQUIREMENTS

Contaminant	Type of Water System	Initial requirement[1]	Continuing requirement where detected [1]	Continuing requirement where not detected and vulnerable to contamination[1]	Continuing requirement where not detected and invulnerable to contamination[1]
Principal Organic Contaminants listed on TABLE 9D and Vinyl chloride and Methyl-tertiary-butyl-ether (MTBE)[7]	Community and Nontransient Noncommunity serving 3300 or more persons	If not sampled between 1/1/88 and January 1, 1992, Quarterly sample per source for one year.[5]	Quarterly[2]	Annually[3]	Once every six years[4] for ground water sources. State discretion[6] for surface water sources.
	Community and Nontransient Noncommunity serving fewer than 3300 persons	If not sampled between 1/1/88 and September 30, 1993, quarterly sample per source for one year.[5]	Quarterly[2]	Annually[3]	Once every six years[4] for ground water sources. State discretion[6] for surface water sources.
	Noncommunity excluding NTNC	State discretion[6]	State discretion[6]	State discretion[6]	State discretion[6]

Unspecified Organic Contaminants and other POCs not listed on TABLE 9C or 9D and Propylene Glycol	Community and Noncommunity	State discretion[6]	State discretion[6]	State discretion[6]	State discretion[6]

Table 9B Footnote 1 The location for sampling of each ground water source of supply shall be between the individual well and at or before the first service connection and before mixing with other sources, unless otherwise specified by the State to be at the entry point representative of the individual well. Public water systems which rely on a surface water shall sample at points in the distribution system representative of each source or at an entry point or points to the distribution system after any water treatment plant.

Table 9B Footnote 2 The State may decrease the quarterly monitoring requirement to annually provided that the system is reliably and consistently below the MCL based on a minimum of two quarterly samples from a ground water source and four quarterly samples from a surface water source. Systems which monitor annually must monitor during the quarter which previously yielded the highest analytical result.

Table 9B Footnote 3 The State may reduce the frequency of monitoring of a ground water source to once every three years for a public water system which has three consecutive annual samples with no detection of a contaminant.

Table 9B Footnote 4 The State may determine that a public water system is invulnerable to a contaminant or contaminants after evaluating every three years the following factors:

(a) Knowledge of previous use (including transport, storage, or disposal) of the contaminant within the watershed or zone of influence of the system. If a determination by the State reveals no previous use of the contaminant within the watershed or zone of influence, a waiver can be granted.

(b) If previous use of the contaminant is unknown or it has been used previously, then the following factors shall be used to determine whether a waiver can be granted.

1. Previous analytical results.

2. The proximity of the system to a potential point or nonpoint source of contamination. Point sources include spills and leaks of chemicals at or near a water treatment facility or at manufacturing, distribution, or storage facilities, or from hazardous and municipal waste landfills and other waste handling or treatment facilities.

3. The environmental persistence and transport of the contaminants.

4. The number of persons served by the public water system and the proximity of a smaller system to a larger system.

5. How well the water source is protected against contamination, such as whether it is a surface or groundwater system. Groundwater systems must consider factors such as depth of the well, the type of soil, and wellhead protection. Surface water systems must consider watershed protection.

Table 9B Footnote 5 The State may reduce the initial monitoring requirement to one sample if the State determines that the system is invulnerable in accordance with footnote 4.

Table 9B Footnote 6 State discretion shall mean requiring monitoring when the State has reason to believe the MCL has been violated, the potential exists for an MCL violation or the contaminant may present a risk to public health.

Table 9B Footnote 7 The initial requirement does not apply to MTBE monitoring.

TABLE 9C-ORGANIC CHEMICALS-PESTICIDES, DIOXIN, PCBs
MINIMUM MONITORING REQUIREMENTS

Contaminant [To MCLs]		**Type of Water System**	**Initial requirement** 1 2	**Continuing requirement where detected** 2 3 9 10	**Continuing requirement where not detected** 2
Group 1 Chemicals	Group 2 Chemicals	Community and Non-transient Noncommunity serving 3300 or more persons 9	Quarterly sample per source, for one year by 12/31/93 4	Quarterly	One sample every eighteen months per source 5 6 7
Alachlor	Aldrin				
Aldicarb	Benzo(a)pyrene				
Aldicarb sulfoxide	Butachlor				
Aldicarb sulfone	Carbaryl				
Atrazine	Dalapon				
Carbofuran	Di(2-ethylhexyl)-adipate				
Chlordane	Di(2-ethylhexyl)-phthalate				
Dibromochloropropane	Dicamba				
2,4-D	Dieldrin				
Endrin	Dinoseb				
Ethylene dibromide	Diquat				
Heptachlor	Endothall				
Heptachlor epoxide	Glyphosate				

Lindane Methoxychlor Polychlorinated biphenyls Pentachlorophenol Toxaphene 2, 4, 5-TP (Silvex)	Hexachlorobenzene Hexachlorocyclopentadiene 3-Hydroxycarbofuran Methomyl Metolachlor Metribuzin Oxamyl (Vydate) Pichloram Propachlor Simazine 2,5,7,8-TCDD (Dioxin)	Community and Nontransient noncommunity serving fewer than 3300 persons and more than 149 service connections	Quarterly samples per entry point, for one year by 12/31/94 5 6 7	Quarterly	Once per entry point every three years 5 6 7
		Community and Nontransient Noncommunity serving fewer than 3300 persons and fewer than 150 service connections	Quarterly samples per entry point for one year by 12/31/95 for Group 1 and 12/31/98 for Group 2 5 6 7	Quarterly	Once per entry point every three years 5 6 7
		Noncommunity excluding NTNC	State discretion8	State discretion8	State discretion8

Table 9C Footnote 1 If monitoring data collected after January 1, 1990 are consistent with the requirements of Appendix 5-C then the State may allow systems to use that data to satisfy the initial requirement. Systems serving a population of less than 3300 persons shall not be required to collect additional quarterly monitoring for a specific contaminant or contaminants, if monitoring for only one quarter prior to October 1, 1993 did not detect the presence of such contaminant or contaminats.

Table 9C Footnote 2 The location for sampling of each ground water source of supply shall be between the individual well and at or before the first service connection and before mixing with other sources, unless otherwise specified by the State to be at the entry point representative of the individual well. Public water systems which take water from a surface water body or watercourse shall sample at points in the distribution system representative of each source or at entry point or points to the distribution system after any water treatment plan.

Table 9C Footnote 3 The State may decrease the quarterly monitoring requirement to annually provided that system is reliably and consistently below the MCL based on a minimum of two quarterly samples from a ground water source and four quarterly samples from a surface water source. Systems which monitor annually must monitor during the quarter that previously yielded the highest analytical result. Systems serving fewer than 3,300 persons and which have three consecutive annual samples without

detection may apply to the State for a waiver in accordance with footnote 6.

Table 9C Footnote 4 The State may allow a system to postpone monitoring for a maximum of two years, if an approved laboratory is not reasonably available to do a required analysis within the scheduled monitoring period.

Table 9C Footnote 5 The State may waive the monitoring requirement for a public water system that submits information every three years to demonstrate that a contaminant or contaminants was not used, transported, stored or disposed within the watershed or zone of influence of the system.

Table 9C Footnote 6 The State may reduce the monitoring requirement for a public water system that submits information every three years to demonstrate that the public water system is invulnerable to contamination. If previous use of the contaminant is unknown or it has been used previously, then the following factors shall be used to determine whether a waiver is granted.

a. Previous analytical results.

b. The proximity of the system to a potential point or nonpoint source of contamination. Point sources include spills and leaks of chemicals at or near a water treatment facility or at manufacturing, distribution, or storage facilities, or from hazardous and municipal waste landfills and other waste handling or treatment facilities. Nonpoint sources include the use of pesticides to control insect and weed pests on agricultural areas, forest lands, home and gardens, and other land application uses.

c. The environmental persistence and transport of the pesticide or PCBs.

d. How well the water source is protected against contamination due to such factors as depth of the well and the type of soil and the integrity of the well casing.

e. Elevated nitrate levels at the water supply source.

f. Use of PCBs in equipment used in production, storage or distribution of water.

Table 9C Footnote 7 The State may allow systems to composite samples in accordance with the conditions in Appendix 5-C.

Table 9C Footnote 8 State discretion shall mean requiring monitoring when the State has reason to believe the MCL has been violated, the potential exists for an MCL violation or the contaminant may present a risk to public health.

Table 9C Footnote 9 If a contaminant is detected, repeat analysis must include all analytes contained in the approved analytical method in Appendix 5-C for the detected contaminant.

Table 9C Footnote 10 Detected as used in the table shall be defined as reported by the State approved laboratory to be greater than or equal to the method detection levels as specified in Appendix 5-C.

TABLE 9D-ORGANIC CHEMICALS-POCs
MONITORING REQUIREMENTS

Contaminant	Specific Contaminants for Analysis	
POCs	benzene[1]	cis-1,3-dichloropropene
	bromobenzene	trans-1,3-dichloropropene
	bromochloromethane	ethylbenzene[1]
	bromomethane	hexachlorobutadiene
	n-butylbenzene	isopropylbenzene
	sec-butylbenzene	p-isopropyltoluene
	tert-butylbenzene	methylene chloride[1]
	carbon tetrachloride[1]	n-propylbenzene
	chlorobenzene[1]	styrene[1]
	chloroethane	1,1,1,2-tetrachloroethane
	chloromethane	1,1,2,2-tetrachloroethane
	2-chlorotoluene	tetrachloroethene[1]
	4-chlorotoluene	toluene[1]
	dibromomethane	1,2,3-trichlorobenzene[1]
	1,2-dichlorobenzene[1]	1,2,4-trichlorobenzene
	1,3-dichlorobenzene	1,1,1-trichloroethane[1]
	1,4-dichlorobenzene[1]	1,1,2-trichloroethane[1]
	dichlorodifluoromethane	trichloroethene[1]
	1,1-dichloroethane	trichlorofluoromethane
	1,2-dichloroethane[1]	1,2,3-trichloropropane
	1,1-dichloroethene[1]	1,2,4-trimethylbenzene
	cis-1,2-dichloroethene[1]	1,3,5-trimethylbenzene
	trans-1,2-dichloroethene[1]	m-xylene[1]
	1,2-dichloropropane[1]	o-xylene[1]
	1,3-dichloropropane	p-xylene[1]
	2,2-dichloropropane	
	1,1-dichloropropene	

Table 9D Footnote 1 Notification must contain mandatory health effect language.

TABLE 10-TURBIDITY
MINIMUM MONITORING REQUIREMENTS[1]

		Source type	
Contaminant	**Type of water system**	Ground water only	Surface only, Surface and ground water or groundwater directly influenced by surface water.
Entry point turbidity	Community	State discretion[2]	Collect and analyze one sample per day from each entry point. All results must be recorded to two significant figures.
	Noncommunity	State discretion[2]	Collect and analyze one sample annually. Monitoring requirement may be increased at State discretion.[2]
Distribution system turbidity	Community	State discretion[2]	Five samples each week distribution unless otherwise determined by the State. No two samples may be obtained on the same day and no two samples are to be collected from the same distribution point during the week.
	Noncommunity	State discretion[2]	State discretion[2]

Table 10 Footnote 1 The requirements of this table apply to unfiltered systems that the State has determined, in writing pursuant to section 5-1.30 of this Subpart, must install filtration. These requirements only apply until filtration is installed.

Table 10 Footnote 2 State discretion shall mean requiring monitoring when the State has reason to believe the MCL has been violated, the potential exists for an MCL violation or the contaminant may present a risk to public health.

Effective Date: May 26, 2004

TABLE 10A-TURBIDITY
MINIMUM MONITORING REQUIREMENTS

Contaminant	Type of water system	Source type	
		Ground water	Surface water[1]
Filtered water turbidity	Community and Noncommunity	Not applicable	Continuous monitoring for composite filter effluent and individual filters.[2],[3],[4],[5],
Raw water turbidity	Unfiltered surface: Community and Noncommunity	Not applicable	Every four hours or continuous monitoring[5]
Distribution point turbidity	Community	State discretion[6]	Five distribution samples each week unless otherwise determined by the State. No two samples are to be collected from the same distribution point during the same week.
	Noncommunity	State discretion[6]	State discretion[6]

Table 10A Footnote 1 Surface water sources or groundwater sources directly influenced by surface water.

Table 10A Footnote 2 Effective January 1, 2002 systems serving 10,000 or more people must record the results of individual filter monitoring every fifteen minutes, and combined filter effluent every four hours. Effective January 14, 2005 systems serving fewer than 10,000 persons must record the results of individual filter monitoring every fifteen minutes, and combined filter effluent every four hours. Until January 14, 2005, systems serving fewer than 10,000 persons must continuously monitor the composite filter effluent turbidity, or record the turbidity every four hours. The state may allow systems with two filters to monitor the combined filter effluent continuously (recording every 15 minutes) in lieu of monitoring individual filter turbidity. Results of individual filter monitoring must be maintained for at least three years.

Table 10A Footnote 3 If there is a failure in the continuous turbidity monitoring equipment, the system must conduct grab sampling every four hours instead of continuous monitoring, but for no more than five working days following the failure of the equipment.

Table 10A Footnote 4 For systems using slow sand filtration or filtration treatment, other than conventional treatment, direct filtration or D.E. filtration, the State may reduce sampling frequency to once per day if it determines that less frequent monitoring is sufficient to indicate effective filtration performance.

Table 10A Footnote 5 If a system uses continuous monitoring, it must use the turbidity values recorded every four hours to determine if a treatment technique violation occurs, unless the State has approved in writing a different time interval.

Table 10A Footnote 6 State discretion shall mean requiring monitoring when the State has reason to

believe the MCL has been violated, the potential exists for an MCL violation or the contaminant may present a risk to public health.

TABLE 11-MICROBIOLOGICAL
MINIMUM MONITORING REQUIREMENTS [1] [2] [3]

		Number of samples based on population			
Contaminant	**Type of Water system**	**Population served:**	**Minimum number of samples per month [4] [5]**	**Population served:**	**Minimum number of samples per month**
Total coliform[6]	Community	Up to 1,000[7]	1	59,001 to 70,000	70
		1,001 to 2,500	2	70,001 to 83,000	80
		2,501 to 3,300	3	83,001 to 96,000	90
		3,301 to 4,100	4	96,001 to 130,000	100
		4,101 to 4,900	5	130,001 to 220,000	120
		4,901 to 5,800	6	220,001 to 320,000	150
		5,801 to 6,700	7	320,001 to 450,000	180
		6,701 to 7,600	8	450,001 to 600,000	210
		7,601 to 8,500	9	600,001 to 780,000	240
		8,501 to 12,900	10	780,001 to 970,000	270
		12,901 to 17,200	15	970,001 to 1,230,000	300
		17,201 to 21,500	20	1,230,001 to 1,520,000	330
		21,501 to 25,000	25	1,520,001 to 1,850,000	360
		25,001 to 33,000	30	1,850,001 to 2,270,000	390
		33,001 to 41,000	40	2,270,001 to 3,020,000	420
		41,001 to 50,000	50	3,020,001 to 3,960,000	450
		50,001 to 59,000	60	3,960,001 or more	480
	Noncommunity using surface water or ground water directly influenced by surface water	All	Same as Community		

	Noncommunity using only ground water not directly influenced by surface water	≤ 1,000	Quarterly
		> 1,000	Same as Community
Escherichia coli (E. coli)	Community and Noncommunity	All	Any routine or repeat samples that are coliform positive must be analyzed for *Escherichia coli (E. coli)*.

Table 11 Footnote 1 Public water supply systems must collect total coliform samples at sites which are representative of water throughout the distribution system and throughout the reporting period according to a written sample site plan which is subject to State review and revision.

Table 11 Footnote 2 Public water systems using surface water or ground water directly influenced by surface water, and which do not provide filtration, must collect and analyze at least one sample for total coliforms near the first service connection each day the turbidity level of the raw water exceeds 1.49 NTU. This sample shall be collected within 24 hours. Results of this sample must be included in determining compliance with the MCL of total coliforms in table 6 of this section.

Table 11 Footnote 3 Samples taken to determine disinfection practices after pipe repair, replacement, etc. are not to be used for determining MCL compliance for total coliforms in table 6 of this section.

Table 11 Footnote 4 After any total coliform positive sample the system must collect at least four repeat samples on the same day and within 24 hours of being notified. One repeat sample must be from the same sampling site that the original coliform positive sample was collected, one repeat sample within five service connections upstream and one repeat sample within five service connections downstream and one taken at random in the distribution system. If one or more repeat samples is total coliform positive, another set of repeat samples must be collected. This process must be repeated until total coliform are not detected in one complete set or it is determined that the MCL has been violated. For systems with a single service connection a single repeat sample of at least 400 milliliters volume must be collected.

Table 11 Footnote 5 The month following repeat sample collection, the system must collect a minimum of five routine samples. The State may waive, in writing, the requirement to collect five routine samples the next month the system provides water to the public, if the State carries out an onsite visit before the end of the next month and the State determines why the sample was total coliform positive and establishes that the system has corrected the problem. The State can not waive the requirement to collect five routine samples solely on the basis that all the repeat samples were total coliform negative. A system must take at least one routine sample before the end of the next month it serves water to the public and the sample is to be used to determine compliance with the MCL in accordance with table 6 of this section, unless the State determines that the system has corrected the problem before the system collected the sample required in

table 11 footnote 4 of this section and all repeat samples were total coliform negative.

Table 11 Footnote 6 If chlorine is used as the disinfectant, a free chlorine residual determination shall be made at the same time and location that the sample is collected for total coliform analysis. Monitoring for heterotrophic bacteria may be substituted for free chlorine residuals. A heterotrophic plate count result equal to or less than 500 colonies per milliliter is considered to be equivalent to a measurable free chlorine residual.

Table 11 Footnote 7 The State may, in writing, reduce the monitoring frequency to quarterly for a community water system serving 1,000 or fewer persons if the system has no history of total coliform contamination and a sanitary survey conducted in the past five years shows that the system is supplied solely by a protected ground water source and the system and ground water source are free of sanitary defects.

TABLE 11A-MICROBIOLOGICAL/FILTRATION AVOIDANCE CRITERIA MINIMUM MONITORING REQUIREMENTS[1]

Contaminant[2]	Type of water system	Population served	Minimum number of samples per week [3] [4]
Raw water fecal or total coliform	Community and Noncommunity	Up to 500	1
		501 to 3,300	2
		3,301 to 10,000	3
		10,001 to 25,000	4
		25,001 or more	5

Table 11A Footnote 1 The monitoring requirement applies to surface water sources and ground water sources directly influenced by surface water.

Table 11A Footnote 2 Either fecal or total coliform density measurements are acceptable. If both analyses are performed, the fecal coliform results will take precedence.

Table 11A Footnote 3 Monitoring sampling must be performed on separate days.

Table 11A Footnote 4 Samples must be taken and analyzed every day the system serves water to the public and the turbidity of the raw water exceeds 1.49 NTU. The samples count toward the weekly sampling requirement.

TABLE 12-RADIOLOGICAL

MINIMUM MONITORING REQUIREMENTS

Contaminant	Type of water system	Source type	
		All	
Combined radium-226 and radium-228 and gross alpha particle activity	Community	Once every four years, an annual composite of quarterly samples; or four quarterly samples must be obtained.[1] [2] [3] [4]	
	Noncommunity	Not Applicable	
Beta particle and photon radioactivity from manmade radionuclides		Source type	
	Community serving over 100,000 people	Ground water only	Surface only or Surface and ground water
		State discretion[7]	Once every four years, an annual composite of quarterly samples; or four quarterly samples must be obtained. [5] [6]
	Community serving 100,000 or fewer people	State discretion[7]	State discretion[7]
	Noncommunity	Not Applicable	Not Applicable

Table 12 Footnote 1 Gross alpha particle activity measurement may be substituted for the required radium-226 and radium-228 analysis, if the measured gross alpha particle activity does not exceed five picocuries per liter at a confidence level of 95 percent (1.65 sigma where sigma is the standard deviation of the net counting rate of the sample). When the gross alpha particle activity exceeds five picocuries per liter, the same or an equivalent sample shall be analyzed for radium-226. If the concentration of radium-226 exceeds three picocuries per liter, the same or an equivalent sample shall be analyzed for radium-228.

Table 12 Footnote 2 The State may permit the substitution of the analysis of a single sample for quarterly sampling when the average annual concentration is less than one half of the MCL.

Table 12 Footnote 3 The State may require suppliers of water to conduct annual monitoring when the radium-226 concentration exceeds three picocuries.

Table 12 Footnote 4 If the average annual MCL for gross alpha particle activity or total radium is exceeded, monitoring at quarterly intervals shall be continued until the annual average concentration no longer exceeds the MCL, or until a monitoring schedule as a condition to a variance, exemption or enforcement action is effective.

Table 12 Footnote 5 Monitoring compliance may be assumed without further analysis if the average annual concentration of gross beta particle activity is less than 50 picocuries per liter and if the average annual concentration of tritium is less than 20,000 picocuries per liter and the average annual concentration of strontium-90 is less than 8 picocuries per liter if both radionuclides are present, the sum of their annual dose equivalents to bone marrow shall not exceed for millirems per year.

Table 12 Footnote 6 If the gross beta particle activity exceeds 50 picocuries per liter, an analysis of the sample must be performed to identify the major radioactive constituents present and the appropriate organ and total body doses shall be calculated to determine compliance.

Table 12 Footnote 7 When the State determines that a community water system is using water contaminated by effluents from nuclear facilities, the supplier of water shall initiate quarterly monitoring for gross beta particle and iodine-131 radioactivity and annual monitoring for strontium-90 and tritium.

Effective Date: May 26, 2004

TABLE 13-REQUIRED NOTIFICATIONS

Contaminant/Situation(Subpart 5-1 citations)	**Single sample exceeds MCL/MRDL**	**MCL/MRDL/TT[1] violation**	**Failure to meet monitoring requirements and/or failure to use applicable testing procedure**
Public Health Hazard (section 5-1.1(aw)	Not applicable	State Tier 1	State Tier 1
Escherichia coli (E. coli) (section 5-1.52 tables 6 and 11)	[2]State Not applicable, or [3]Tier 1	State Tier 1	State [4]Tier 3, or Tier 1
Total Coliform (section 5-1.52 tables 6 and 11)	Not applicable	[14]State [5]Tier 2, or Tier 1	State Tier 3, or Tier 2
Entry Point Turbidity monthly average (section 5-1.52 tables 4 and 10)	[7]State	State Tier 2	State Tier 3

Entry Point Turbidity two day average (section 5-1.52 tables 4 and 10)	State	State [8]Tier 2, or Tier 1	State Tier 3
Raw Water Turbidity (section 5-1.30(d) and section 5-1.52 table 10A)	State	State [8]Tier 2, or Tier 1	State Tier 3
Filtered Water Turbidity Single exceedance of the maximum allowable Turbidity level (section 5-1.52 tables 4A and 10A)	State	State [8]Tier 2, or Tier 1	State Tier 3
Filtered Water Turbidity Treatment Technique violation (section 5-1.52 tables 4A and 10A)	Not applicable	State Tier 2	State Tier 3
Distribution Point Turbidity (section 5-1.52 tables 5, 10 and 10A)	Not applicable	State Tier 2	State Tier 3
[9]Treatment Technique violations other than turbidity (section 5-1.30)	Not applicable	State Tier 2	State Tier 3
[10]Free chlorine residual less than 0.2 mg/L at the entry point (section 5-1.30(d))	Not applicable	[6]State	Not applicable
Inorganic chemicals and physical characteristics listed in Tables 8A and 8B (section 5-1.52 tables 1, 8A, and 8B)	State	State Tier 2	State Tier 3
chloride, iron, manganese, silver, sulfate, and zinc (section 5-1.52 tables 1 and 8D)	Not applicable	State Tier 3	State Tier 3
Sodium (section 5-1.52 tables 1 and 8D)	State if the level exceeds 20 mg/L	Tier 2 if the level exceeds 270 mg/L	Tier 3

Nitrate Nitrite Total Nitrate and Nitrite (section 5-1.52 tables 2 and 8C)	State	State Tier 1	State [11]Tier 1, or Tier 3
Lead and Copper (sections 5-1.40 to 1.49)	Not applicable	State Tier 2	State Tier 3
Organic Chemicals Group 1 and 2 (section 5-1.52 table 9C)	State	State Tier 2	State Tier 3
Principal Organic Contaminants Unspecified Organic Contaminants Total POCs and UOCs	State	State Tier 2	State Tier 3
Radiological Contaminants (section 5-1.52 tables 7 and 12)	State	State Tier 2	State Tier 3
Monitoring and Control of Disinfection Byproduct Precursors (section 5-1.60 to 5-1.64	Not applicable	State Tier 2	State Tier 3
Disinfectant residuals Chlorine and Chloramine (section 5-1.52 tables 3A and 15)	State	State Tier 2	State Tier 3
Disinfectant residual Chlorine dioxide At entry point (section 5-1.52 tables 3A and 15)	State	State Tier 2	State [12]Tier 3, or Tier 2
Disinfectant residual Chlorine dioxide In distribution system (section 5-1.52 tables 3A and 15)	State	State [13]Tier 1	State [13]Tier 1

Disinfection byproducts Trihalomethanes Haloacetic acids (Tables 3 and 9A) and Bromate and Chlorite (section 5-1.52 tables 1 and 8B)	Not applicable	State Tier 2	State Tier 3
Acrylamide and Epichlorohydrin (section 5-1.51(j))	Not applicable	State Tier 2	Not applicable
Operation under a variance or exemption	Not applicable	Tier 3	Not applicable
Violation of conditions of a variance or exemption	Not applicable	State Tier 2	Not applicable
Disruption of water service of four hours or more (section 5-1.23(b))	Not applicable	[6]State	Not applicable

Table 13 Footnote 1 MCL-maximum contaminant level, MRDL-maximum residual disinfectant level, TT-treatment technique

Table 13 Footnote 2 State notification must be made by the supplier of water within 24 hours of learning of an E. coli positive sample.

Table 13 Footnote 3 Public notification normally does not have to be issued for an E. coli positive sample prior to the results of the repeat samples. However, there may be situations where the State determines that a Tier 1 notification is necessary to protect the public health. The supplier of water must provide the Tier 1 notification no later than 24 hours after learning of the State's determination.

Table 13 Footnote 4 Failure to test for E. coli requires a Tier 1 notification if testing is not done after any repeat sample tests positive for coliform. All other E. coli monitoring and testing procedure violations require Tier 3 notification.

Table 13 Footnote 5 Tier 2 notification is normally required, however, there may be situations where the State determines that a Tier 1 notification is necessary to protect the public health. The supplier of water must provide the Tier 1 notification no later than 24 hours after learning of the State's determination.

Table 13 Footnote 6 Tier 1 notification is required if the situation meets the definition of a public health hazard.

Table 13 Footnote 7 If the daily entry point analysis exceeds one NTU, a repeat sample must be taken as soon as practicable and preferably within one hour. If the repeat sample exceeds one NTU, the supplier of water must make state notification.

Table 13 Footnote 8 Systems must consult with the State within 24 hours after learning of the violation. Based on this consultation, the State may subsequently decide to elevate the violation from a Tier 2 to a Tier 1 notification. If consultation does not take place within the 24 hour period, the water system must distribute a Tier 1 notification no later than 48 hours after the system learns of the violation.

Table 13 Footnote 9 These violations include the following: failure to comply with the treatment technique or monitoring requirements in section 5-1.30(b), (c), and (g) of this Subpart; failure to comply with the avoidance criteria in section 5-1.30(c) of this Subpart; and failure to install filtration or disinfection treatment facilities required by section 5-1.30 of this Subpart; failure to report to the state information required in paragraph (3) of section 5-1.72(c) of this Subpart; and failure to maintain records required in paragraph (7) of section 5-1.72(c) of this Subpart.

Table 13 Footnote 10 Applies to systems that have surface water or groundwater directly influenced by surface water as a source and use chlorine. The system must make State notification whether the residual was restored to at least 0.2 mg/L within four hours.

Table 13 Footnote 11 Failure to take a confirmation sample within 24 hours for nitrate or nitrite after an initial sample exceeds the MCL requires a Tier 1 notification. Other monitoring violations for nitrate or nitrite require a Tier 3 notification.

Table 13 Footnote 12 Failure to monitor for chlorine dioxide at the entrance to the distribution system the day after exceeding the MRDL at the entrance to the distribution system requires a Tier 2 notification. Other monitoring violations for chlorine dioxide at the entrance to the distribution system require a Tier 3 notification.

Table 13 Footnote 13 If any daily sample taken at the entrance to the distribution system exceeds the MRDL for chlorine dioxide and one or more samples taken in the distribution system the next day exceed the MRDL, Tier 1 notification is required. Failure to take the required samples in the distribution system the day after the MRDL is exceeded at the entry point also triggers Tier 1 notification.

Table 13 Footnote 14 State notification must be made by the supplier of water within 24 hours of learning of the violation.

TABLE 14A-CT VALUES ($CT_{99.9}$) FOR 99.9 PERCENT INACTIVATION OF *GIARDIA LAMBLIA* CYSTS BY FREE CHLORINE AT 0.5 DEGREES CELSIUS OR LOWER*

Free chlorine residual (mg/l)	pH						
	<=6.0	6.5	7.0	7.5	8.0	8.5	9.0
<=0.4	137	163	195	237	277	329	390
0.6	141	168	200	239	286	342	407
0.8	145	172	205	246	295	354	422
1.0	148	176	210	253	304	365	437

1.2	152	180	215	259	313	376	451
1.4	155	184	221	266	321	387	464
1.6	157	189	226	273	329	397	477
1.8	162	193	231	279	338	407	489
2.0	165	197	236	286	346	417	500
2.2	169	201	242	297	353	426	511
2.4	172	205	247	298	361	435	522
2.6	175	209	252	304	368	444	533
2.8	178	213	257	310	375	452	543
3.0	181	217	261	316	382	460	552

* These CT values achieve greater than a 99.99 percent inactivation of viruses. CT values between the indicated pH values may be determined by linear interpolation. CT values between the indicated temperatures of different tables may be determined by linear interpolation. If no interpolation is used, use the $CT_{99.9}$ value at the lower temperature, and at the higher pH.

TABLE 14B-CT VALUES ($CT_{99.9}$) FOR 99.9 PERCENT INACTIVATION OF *GIARDIA LAMBLIA* CYSTS BY FREE CHLORINE AT 5.0 DEGREES CELSIUS*

Free chlorine residual (mg/l)	pH						
	6.0	6.5	7.0	7.5	8.0	8.5	9.0
0.4	97	117	139	166	198	236	279
0.6	100	120	143	171	204	244	291
0.8	103	122	146	175	210	252	301
1.0	105	125	149	179	216	260	312
1.2	107	127	152	183	221	267	320
1.4	109	130	155	187	227	274	329
1.6	111	132	158	192	232	281	337
1.8	114	135	162	196	238	287	345
2.0	116	138	165	200	243	294	353
2.2	118	140	169	204	248	300	361
2.4	120	143	172	209	253	306	368
2.6	122	146	175	213	258	312	375
2.8	124	148	178	217	263	318	382
3.0	126	151	182	221	268	324	389

* These CT values achieve greater than a 99.99 percent inactivation of viruses. CT values between the indicated pH values may be determined by linear interpolation. CT values between the indicated temperatures of different tables may be determined by linear interpolation. If no interpolation is used, use the CT{99.9} value at the lower temperature, and at the higher pH.

TABLE 14C-CT VALUES ($CT_{99.9}$) FOR 99.9 PERCENT INACTIVATION OF *GIARDIA LAMBLIA* CYSTS BY FREE CHLORINE AT 10.0 DEGREES CELSIUS*

Free chlorine residual (mg/l)	pH						
	6.0	6.5	7.0	7.5	8.0	8.5	9.0
0.4	73	88	104	125	149	177	209
0.6	75	90	107	128	153	183	218
0.8	78	92	110	131	158	189	226
1.0	79	94	112	134	162	195	234
1.2	80	95	114	137	166	200	240
1.4	82	98	116	140	170	206	247
1.6	83	99	119	144	174	211	253
1.8	86	101	122	147	179	215	259
2.0	87	104	124	150	182	221	265
2.2	89	105	127	153	186	225	271
2.4	90	107	129	157	190	230	276
2.6	92	110	131	160	194	234	281
2.8	93	111	134	163	197	239	287
3.0	95	113	137	166	201	243	292

* These CT values achieve greater than a 99.99 percent inactivation of viruses. CT values between the indicated pH values may be determined by linear interpolation. CT values between the indicated temperatures of different tables may be determined by linear interpolation. If no interpolation is used, use the $CT_{99.9}$ value at the lower temperature, and at the higher pH.

TABLE 14D-CT VALUES ($CT_{99.9}$) FOR 99.9 PERCENT INACTIVATION OF *GIARDIA LAMBLIA* CYSTS BY FREE CHLORINE AT 15.0 DEGREES CELSIUS*

Free chlorine residual (mg/l)	pH						
	6.0	6.5	7.0	7.5	8.0	8.5	9.0
0.4	49	59	70	83	99	118	140
0.6	50	60	72	86	102	122	146
0.8	52	61	73	88	105	126	151
1.0	53	63	75	90	108	130	156
1.2	54	64	76	92	111	134	160
1.4	55	65	78	94	114	137	165
1.6	56	66	79	96	116	141	169

1.8	57	68	81	98	119	144	173
2.0	58	69	83	100	122	147	177
2.2	59	70	85	102	124	150	181
2.4	60	72	86	105	127	153	184
2.6	61	73	88	107	129	156	188
2.8	62	74	89	109	132	159	191
3.0	63	76	91	111	134	162	195

* These CT values achieve greater than a 99.99 percent inactivation of viruses. CT values between the indicated pH values may be determined by linear interpolation. CT values between the indicated temperatures of different tables may be determined by linear interpolation. If no interpolation is used, use the $CT_{99.9}$ value at the lower temperature, and at the higher pH.

TABLE 14E-CT VALUES ($CT_{99.9}$) FOR 99.9 PERCENT INACTIVATION OF *GIARDIA LAMBLIA* CYSTS BY FREE CHLORINE AT 20.0 DEGREES CELSIUS*

Free chlorine residual (mg/l)	pH						
	6.0	6.5	7.0	7.5	8.0	8.5	9.0
0.4	36	44	52	62	74	89	105
0.6	38	45	54	64	77	92	109
0.8	39	46	55	66	79	95	113
1.0	39	47	56	67	81	98	117
1.2	40	48	57	69	83	100	120
1.4	41	49	58	70	85	103	123
1.6	42	50	59	72	87	105	126
1.8	43	51	61	74	89	108	129
2.0	44	52	62	75	91	110	132
2.2	44	53	63	77	93	113	135
2.4	45	54	65	78	95	115	138
2.6	46	55	66	80	97	117	141
2.8	47	56	67	81	99	119	143
3.0	47	57	68	83	101	122	146

* These CT values achieve greater than a 99.99 percent inactivation of viruses. CT values between the indicated pH values may be determined by linear interpolation. CT values between the indicated temperatures of different tables may be determined by linear interpolation. If no interpolation is used, use the $CT_{99.9}$ value at the lower temperature, and at the higher pH.

TABLE 14F-CT VALUES ($CT_{99.9}$) FOR 99.9 PERCENT INACTIVATION OF *GIARDIA LAMBLIA* CYSTS BY FREE CHLORINE AT 25.0 DEGREES CELSIUS AND HIGHER*

Free chlorine residual (mg/l)	pH						
	6.0	6.5	7.0	7.5	8.0	8.5	9.0
0.4	24	29	35	42	50	59	70
0.6	25	30	36	43	51	61	73
0.8	26	31	37	44	53	63	75
1.0	26	31	37	45	54	65	78
1.2	27	32	38	46	55	67	80
1.4	27	33	39	47	57	69	82
1.6	28	33	40	48	58	70	84
1.8	29	34	41	49	60	72	86
2.0	29	35	41	50	61	74	88
2.2	30	35	42	51	62	75	90
2.4	30	36	43	52	63	77	92
2.6	31	37	44	53	65	78	94
2.8	31	37	45	54	66	80	96
3.0	32	38	46	55	67	81	97

* These CT values achieve greater than a 99.99 percent inactivation of viruses. CT values between the indicated pH values may be determined by linear interpolation. CT values between the indicated temperatures of different tables may be determined by linear interpolation. If no interpolation is used, use the $CT_{99.9}$ value at the lower temperature, and at the higher pH.

TABLE 14GCT VALUES ($CT_{99.9}$) FOR 99.9 PERCENT INACTIVATION OF *GIARDIA LAMBLIA* CYSTS BY CHLORINE DIOXIDE AND OZONE[1] [2]

	Degrees Celsius					
	≤1	5	10	15	20	25
Chlorine dioxide	63	26	23	19	15	11
Ozone	2.9	1.9	1.4	0.95	0.72	0.48

Table14G Footnote 1 These CT values achieve greater than a 99.99 percent inactivation of viruses. CT values between the indicated temperatures may be determined by linear interpolation. If no interpolation is used, use the $CT_{99.9}$ value at the lower temperature for determining $CT_{99.9}$ values between indicated temperatures.

Table14G Footnote 2 The use of these alternative disinfectants shall be approved in accordance with the

provisions of section 5-1.22 of this Subpart.

Effective Date: May 26, 2004

TABLE 15- Disinfection Monitoring for Systems Using Chlorine or Chloramines Grab Sample Frequency Instead of Continuous Monitoring Entry Point Filtered and Unfiltered Surface Sources[1]

Population served	Samples per day[2]
Up to 500	1
501 - 1,000	2
1,001 - 2,500	3
2,501 - 3,300	4
more than 3,300	Routine grab samples not allowed[3]

Table 15 Footnote 1 If at any time the chlorine residual concentration falls below 0.2 mg/l the system must collect and analyze a grab sample every four hours until the chlorine residual concentration is again equal to or greater than 0.2 mg/l.

Table 15 Footnote 2 The day's grab samples may not be conducted at the same time.

Table 15 Footnote 3 If there is a failure in the continuous monitoring equipment, grab samples, every four hours, may be conducted in lieu of continuous monitoring, but for no more than five working days following the failure of the equipment.

Effective Date: May 26, 2004

TABLE 15A-Disinfectant Residual Minimum Monitoring Requirements

Disinfectant	Type of Water System	Routine Monitoring
Chlorine Chloramines	Community and Nontransient Noncommunity	Sample at the same time and same points in the distribution system as total coliform sampling[1]
Chlorine Dioxide[2]	Community, Nontransient Noncommunity and Transient Noncommunity	Daily sample at the entrance to the distribution system[3]

Table 15A Footnote 1 CWS using surface water or ground water under the direct influence of surface water may use heterotrophic plate count results of equal to or less than 500 colonies per milliliter as equivalent to a free chlorine residual as outlined in table 11, footnote 6 in lieu of taking separate samples for disinfection residuals.

Table 15A Footnote 2 Monitoring is required if chlorine dioxide is used for either oxidation or disinfection.

Table 15A Footnote 3 If the MRDL of 0.8 mg/L is exceeded, the system must take three samples in the distribution system on the following day. If chlorine dioxide or chloramines are used to maintain a disinfectant residual in the distribution system, or if chlorine is used and there are no rechlorination stations, the system must take 3 samples as close to the first customer as possible, at intervals of at least 6 hours. If chlorine is used and there is a rechlorination station, the system must take one sample as close to the first customer as possible, one sample representing average residence time, and one sample representing maximum residence time.

Effective Date: April 25, 2001

TABLE 16-Additional Contaminants Required to be Reported Pursuant to 5-1.72(e)-(i)

Contaminant Name

2,4-dinitrotoluene
2,6-dinitrotoluene
DCPA monoacid
DCPA di acid
4,4'-DDE
EPTC
Molinate
MTBE
Nitrobenzene
Terbacil
Acetochlor
Perchlorate
Diuron
Linuron
Prometon
2,4,6-trichlorophenol
2,4-dichlorophenol
2,4-dinitrophenol
2-methyl-1-phenol
Alachlor ESA

1,2-diphenylhydrazine
Diazinon
Disulfoton
Fonofos
Terbufos
Aeromonas Hydrophilia
Polonium-210
RDX
Algae and toxins
Echoviruses
Coxsackie viruses
Helicobacter pylori
Microsporidia
Caliciviruses
Adenoviruses
Lead - 210
Napthalene

Effective Date: April 25, 2001

TABLE 17-Information Collection Rule Contaminant Reporting Requirements

Contaminant	**Reporting Requirements for Finished Water**
Total Trihalomethanes (chloroform, bromodichloromethane, dibromochloromethane, and bromoform)	Report as a group if detected
Haloacetic Acids (mono-, di-, and trichloroacetic acid, and mono- and di-bromoacetic acid)	Report as a group if detected
Haloacetilenitriles (dichloro-, trichloro-, bromochloro-, and dibromoacetonitrile)	Report as a group if detected
Haloketones (1,1-dichloropropanone and 1,1,1-trichloropropanine)	Report as a group if detected
Chloropicrin	Reporting required if detected
Chloral Hydrate	Reporting required if detected
Total Organic Halides	Reporting required if detected
Disinfectant Residual	Reporting required if detected
Cyanogen Chloride	Report if detected and treatment plant uses Chloramines

Chlorate	Report if detected and treatment plant uses Hypochlorite Solutions
Bromate, Aldehydes	Report if detected and treatment plant uses Ozone
Chlorine Dioxide residual, Chlorite, Chlorate, Bromate, Aldehydes	Report if detected and treatment plant uses Chlorine Dioxide
Total Coliforms	Report if detected
Fecal Coliforms or *Escherichia coli*	Report if detected
Giardia	Report if detected
Total Culturable Viruses	Report if detected