

**Environmental Protection Agency**

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monitoring shall be conducted pursuant to a schedule specified by the State and concurred in by the Administrator of the U.S. Environmental Protection Agency.

**APPENDIX A TO SUBPART C OF PART 141—ALTERNATIVE TESTING METHODS APPROVED FOR ANALYSES UNDER THE SAFE DRINKING WATER ACT**

Only the editions stated in the following table are approved.

**ALTERNATIVE TESTING METHODS FOR CONTAMINANTS LISTED AT 40 CFR 141.21(f)(3)**

Organism	Methodology	SM 21st edition <sup>1</sup>	Other
Total Coliforms .....	Total Coliform Fermentation Technique.	9221 A, B	Modified Colitag™ <sup>13</sup>
	Total Coliform Membrane Filter Technique.	9222 A, B, C	
	Presence-Absence (P-A) Coliform Test.	9221 D	
	ONPG-MUG Test .....	9223	
	Colitag™ .....		

**ALTERNATIVE TESTING METHODS FOR CONTAMINANTS LISTED AT 40 CFR 141.21(f)(6)**

Organism	Methodology	SM 20th edition <sup>6</sup>	SM 21st edition <sup>1</sup>	SM on-line <sup>3</sup>	Other
<i>E. coli</i> .....	ONPG-MUG Test .....	9223 B	9223 B	9223 B-97	Modified Colitag™ <sup>13</sup>

**ALTERNATIVE TESTING METHODS FOR CONTAMINANTS LISTED AT 40 CFR 141.23(k)(1)**

Contaminant	Methodology	EPA method	SM 21st edition <sup>1</sup>	SM online <sup>3</sup>	ASTM <sup>4</sup>	Other
Alkalinity .....	Titrimetric .....	.....	2320 B		D 1067-06 B	
Antimony .....	Hydride-Atomic Absorption .....	.....			D 3697-07	
	Atomic Absorption; Furnace .....	.....	3113 B	3113 B-04		
Arsenic .....	Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES).	200.5, Revision 4.2. <sup>2</sup>				
	Atomic Absorption; Furnace .....	.....	3113 B	3113 B-04	D 2972-08 C	
	Hydride Atomic Absorption .....	.....	3114 B	3114 B-09	D 2972-08 B	
Barium .....	Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES).	200.5, Revision 4.2. <sup>2</sup>				
	Inductively Coupled Plasma .....	.....	3120 B			
	Atomic Absorption; Direct .....	.....	3111 D			
	Atomic Absorption; Furnace .....	.....	3113 B	3113 B-04		
Beryllium .....	Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES).	200.5, Revision 4.2. <sup>2</sup>				
	Inductively Coupled Plasma .....	.....	3120 B			
	Atomic Absorption; Furnace .....	.....	3113 B	3113 B-04	D 3645-08 B	
Cadmium .....	Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES).	200.5, Revision 4.2. <sup>2</sup>				
	Atomic Absorption; Furnace .....	.....	3113 B	3113 B-04		
Calcium .....	EDTA titrimetric .....	.....	3500-Ca B		D 511-09 A	
	Atomic Absorption; Direct Aspiration.	.....	3111 B		D 511-09 B	
	Inductively Coupled Plasma .....	.....	3120 B			
	Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES).	200.5, Revision 4.2. <sup>2</sup>				
Chromium .....	Ion Chromatography .....	.....			D 6919-09	
	Inductively Coupled Plasma .....	.....	3120 B			
	Atomic Absorption; Furnace .....	.....	3113 B	3113 B-04		

ALTERNATIVE TESTING METHODS FOR CONTAMINANTS LISTED AT 40 CFR 141.23(k)(1)—Continued

Contaminant	Methodology	EPA method	SM 21st edition <sup>1</sup>	SM online <sup>3</sup>	ASTM <sup>4</sup>	Other
Copper	Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES).	200.5, Revision 4.2. <sup>2</sup>				
	Atomic Absorption; Furnace		3113 B	3113 B-04	D 1688-07 C D 1688-07 A	
	Atomic Absorption; Direct Aspiration.		3111 B			
Inductively Coupled Plasma		3120 B				
Conductivity	Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES).	200.5, Revision 4.2. <sup>2</sup>				
	Conductance		2510 B			
Cyanide	Manual Distillation followed by ..				D2036-06 A D2036-06 B	
	Spectrophotometric, Amenable.		4500-CN - G			
	Spectrophotometric Manual ..		4500-CN - E 4500-CN - F		D2036-06 A	
Fluoride	Selective Electrode					ME355.01 <sup>7</sup>
	Gas Chromatography/Mass Spectrometry Headspace.					
	Ion Chromatography		4110 B			
	Manual Distillation; Colorimetric SPADNS.		4500-F B, D		D 1179-04 B	
Lead	Manual Electrode		4500-F-C			
	Automated Alizarin		4500-F-E			
	Arsenite-Free Colorimetric SPADNS.					Hach SPADNS 2 Method 10225. <sup>22</sup>
Magnesium	Atomic Absorption; Furnace		3113 B	3113 B-04	D 3559-08 D	
	Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES).	200.5, Revision 4.2. <sup>2</sup>				
Mercury	Atomic Absorption; Direct		3111 B		D 511-09 B	
	Inductively Coupled Plasma		3120 B			
	Complexation Titrimetric Methods.		3500-Mg B		D 511-09 A	
Nitrate	Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES).	200.5, Revision 4.2. <sup>2</sup>				
	Ion Chromatography				D 6919-09	
Nickel	Manual, Cold Vapor		3112 B			
	Inductively Coupled Plasma		3120 B			
	Atomic Absorption; Direct		3111 B	3113 B-04		
Atomic Absorption; Furnace		3113 B				
Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES).	200.5, Revision 4.2. <sup>2</sup>					
Nitrite	Ion Chromatography		4110 B			
	Automated Cadmium Reduction		4500-NO <sub>3</sub> -F			
	Manual Cadmium Reduction		4500-NO <sub>3</sub> -E			
	Ion Selective Electrode		4500-NO <sub>3</sub> -D			
Orthophosphate.	Reduction/Colorimetric					Systea Easy (1-Reagent) <sup>8</sup>
	Colorimetric; Direct					Hach TNTplus™ 835/836 Method 10206. <sup>23</sup>
	Ion Chromatography		4110 B			
Orthophosphate.	Colorimetric, ascorbic acid, single reagent.		4500-P E	4500-P E-99		Systea Easy (1-Reagent) <sup>8</sup>

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ALTERNATIVE TESTING METHODS FOR CONTAMINANTS LISTED AT 40 CFR 141.23(k)(1)—Continued

Contaminant	Methodology	EPA method	SM 21st edition <sup>1</sup>	SM online <sup>3</sup>	ASTM <sup>4</sup>	Other
pH .....	Colorimetric, Automated, Ascorbic Acid.		4500-P F	4500-P F-99		
	Electrometric .....		4500-H+ B			
Selenium .....	Hydride—Atomic Absorption .....		3114 B	3114 B-09	D 3859-08 A	
	Atomic Absorption; Furnace .....		3113 B	3113 B-04	D 3859-08 B	
Silica .....	Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES).	200.5, Revision 4.2. <sup>2</sup>				
	Colorimetric .....				D859-05	
	Molybdsilicate .....		4500-SiO <sub>2</sub> C			
	Heteropoly blue .....		4500-SiO <sub>2</sub> D			
	Automated for Molybdate-reactive Silica.		4500-SiO <sub>2</sub> E			
Sodium .....	Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES).	200.5, Revision 4.2. <sup>2</sup>				
	Inductively Coupled Plasma .....		3120 B			
	Atomic Absorption; Direct Aspiration.		3111 B			
Temperature ..	Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES).	200.5, Revision 4.2. <sup>2</sup>				
	Ion Chromatography .....				D 6919-09	
	Thermometric .....		2550			

ALTERNATIVE TESTING METHODS FOR CONTAMINANTS LISTED AT 40 CFR 141.24(e)(1)

Contaminant	Methodology	EPA method	SM 21st edition <sup>1</sup>	SM online <sup>3</sup>
Benzene .....	Purge & Trap/Gas Chromatography/ Mass Spectrometry.	524.3 <sup>9</sup>		
Carbon tetrachloride	Purge & Trap/Gas Chromatography/ Mass Spectrometry.	524.3		
Chlorobenzene .....	Purge & Trap/Gas Chromatography/ Mass Spectrometry.	524.3		
1,2-Dichlorobenzene	Purge & Trap/Gas Chromatography/ Mass Spectrometry.	524.3		
1,4-Dichlorobenzene	Purge & Trap/Gas Chromatography/ Mass Spectrometry.	524.3		
1,2-Dichloroethane ..	Purge & Trap/Gas Chromatography/ Mass Spectrometry.	524.3		
cis-Dichloroethylene	Purge & Trap/Gas Chromatography/ Mass Spectrometry.	524.3		
Trans-Dichloroethylene.	Purge & Trap/Gas Chromatography/ Mass Spectrometry.	524.3		
Dichloromethane .....	Purge & Trap/Gas Chromatography/ Mass Spectrometry.	524.3		
1,2-Dichloropropane	Purge & Trap/Gas Chromatography/ Mass Spectrometry.	524.3		
Ethylbenzene .....	Purge & Trap/Gas Chromatography/ Mass Spectrometry.	524.3		
Styrene .....	Purge & Trap/Gas Chromatography/ Mass Spectrometry.	524.3		
Tetrachloroethylene	Purge & Trap/Gas Chromatography/ Mass Spectrometry.	524.3		
1,1,1-Trichloroethane.	Purge & Trap/Gas Chromatography/ Mass Spectrometry.	524.3		
Trichloroethylene .....	Purge & Trap/Gas Chromatography/ Mass Spectrometry.	524.3		
Toluene .....	Purge & Trap/Gas Chromatography/ Mass Spectrometry.	524.3		
1,2,4-Trichlorobenzene.	Purge & Trap/Gas Chromatography/ Mass Spectrometry.	524.3		
1,1-Dichloroethylene	Purge & Trap/Gas Chromatography/ Mass Spectrometry.	524.3		
1,1,2-Trichlorethane	Purge & Trap/Gas Chromatography/ Mass Spectrometry.	524.3		
Vinyl chloride .....	Purge & Trap/Gas Chromatography/ Mass Spectrometry.	524.3		

ALTERNATIVE TESTING METHODS FOR CONTAMINANTS LISTED AT 40 CFR 141.24(e)(1)—Continued

Contaminant	Methodology	EPA method	SM 21st edition <sup>1</sup>	SM online <sup>3</sup>
Xylenes (total) .....	Purge & Trap/Gas Chromatography/Mass Spectrometry.	524.3		
2,4-D .....	Gas Chromatography/Electron Capture Detection (GC/ECD).		6640 B	6640 B–01
2,4,5-TP (Silvex) .....	Gas Chromatography/Electron Capture Detection (GC/ECD).		6640 B	6640 B–01
Carbofuran .....	High-performance liquid chromatography (HPLC) with post-column derivatization and fluorescence detection.		6610 B	6610 B–04
Dalapon .....	Ion Chromatography Electrospray Ionization Tandem Mass Spectrometry (IC–ESI–MS/MS).	557 <sup>14</sup>		
	Gas Chromatography/Electron Capture Detection (GC/ECD).		6640 B	6640 B–01
Dibromochloropropane (DBCP) .....	Purge & Trap/Gas Chromatography/Mass Spectrometry.	524.3		
Dinoseb .....	Gas Chromatography/Electron Capture Detection (GC/ECD).		6640 B	6640 B–01
Ethyl dibromide (EDB) .....	Purge & Trap/Gas Chromatography/Mass Spectrometry.	524.3		
Glyphosate .....	High-Performance Liquid Chromatography (HPLC) with Post-Column Derivatization and Fluorescence Detection.		6651 B	6651 B–00
Oxamyl .....	High-performance liquid chromatography (HPLC) with post-column derivatization and fluorescence detection.		6610 B	6610 B–04
Pentachlorophenol .....	Gas Chromatography/Electron Capture Detection (GC/ECD).		6640 B	6640 B–01
Picloram .....	Gas Chromatography/Electron Capture Detection (GC/ECD).		6640 B	6640 B–01
Total Trihalomethanes.	Purge & Trap/Gas Chromatography/Mass Spectrometry.	524.3		

ALTERNATIVE TESTING METHODS FOR CONTAMINANTS LISTED AT 40 CFR 141.25(a)

Contaminant	Methodology	SM 21st edition <sup>1</sup>	ASTM <sup>4</sup>
<b>Naturally Occurring:</b>			
Gross alpha and beta .....	Evaporation .....	7110 B	
Gross alpha .....	Coprecipitation .....	7110 C	
Radium 226 .....	Radon emanation .....	7500–Ra C	D3454–05
	Radiochemical .....	7500–Ra B	D2460–07
Radium 228 .....	Radiochemical .....	7500–Ra D	
Uranium .....	Radiochemical .....	7500–U B	
	ICP–MS .....		D5673–05
	Alpha spectrometry .....	7500–U C	D3972–09
	Laser Phosphorimetry .....		D5174–07
<b>Man-Made:</b>			
Radioactive Cesium .....	Radiochemical .....	7500–Cs B	
	Gamma Ray Spectrometry .....	7120	D3649–06
Radioactive Iodine .....	Radiochemical .....	7500–I B	D3649–06
	.....	7500–I C	
	.....	7500–I D	
	Gamma Ray Spectrometry .....	7120	D4785–08
Radioactive Strontium 89, 90 ...	Radiochemical .....	7500–Sr B	
Tritium .....	Liquid Scintillation .....	7500– <sup>3</sup> H B	D4107–08
Gamma Emitters .....	Gamma Ray Spectrometry .....	7120	D3649–06
	.....	7500–Cs B	D4785–08
	.....	7500–I B	

ALTERNATIVE TESTING METHODS FOR CONTAMINANTS LISTED AT 40 CFR 141.74(a)(1)

Organism	Methodology	SM 21st edition <sup>1</sup>	Other
Total Coliform .....	Total Coliform Fermentation Technique .....	9221 A, B, C	

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**ALTERNATIVE TESTING METHODS FOR CONTAMINANTS LISTED AT 40 CFR 141.74(a)(1)—Continued**

Organism	Methodology	SM 21st edition <sup>1</sup>	Other
Fecal Coliforms ....	Total Coliform Membrane Filter Technique .....	9222 A, B, C	Mitchell M5271 <sup>10</sup> Mitchell M5331 <sup>11</sup> AMI Turbiwell <sup>15</sup> Orion AQ4500 <sup>12</sup>
	ONPG–MUG Test .....	9223	
	Fecal Coliform Procedure .....	9221 E	
Fecal Coliform Filter Procedure .....	9222 D		
Heterotrophic bacteria.	Pour Plate Method .....	9215 B	
	Turbidity .....	2130 B	
	Nephelometric Method .....		
	Laser Nephelometry (on-line) .....		
	LED Nephelometry (on-line) .....		
	LED Nephelometry (on-line) .....		
	LED Nephelometry (portable) .....		

**ALTERNATIVE TESTING METHODS FOR DISINFECTANT RESIDUALS LISTED AT 40 CFR 141.74(a)(2)**

Residual	Methodology	SM 21st Edition <sup>1</sup>	ASTM <sup>4</sup>	Other
Free Chlorine .....	Amperometric Titration .....	4500–Cl D .....	D 1253–08.	EPA 334.0. <sup>16</sup> ChloroSense. <sup>17</sup>
	DPD Ferrous Titrimetric .....	4500–Cl F.		
	DPD Colorimetric .....	4500–Cl G.		
	Syringaldazine (FACTS) .....	4500–Cl H.		
	On-line Chlorine Analyzer .....	.....		
Total Chlorine .....	Amperometric Sensor .....	.....	D 1253–08.	
	Amperometric Titration .....	4500–Cl D .....		
	Amperometric Titration (Low level measurement). .....	4500–Cl E.		
	DPD Ferrous Titrimetric .....	4500–Cl F.		
	DPD Colorimetric .....	4500–Cl G.		
Chlorine Dioxide .....	Iodometric Electrode .....	4500–Cl I.	.....	EPA 334.0. <sup>16</sup> ChloroSense. <sup>17</sup>
	On-line Chlorine Analyzer .....	.....		
	Amperometric Sensor .....	.....		
Ozone .....	Amperometric Titration .....	4500–ClO <sub>2</sub> C.	.....	.....
	Amperometric Titration .....	4500–ClO <sub>2</sub> E.		
	Indigo Method .....	4500–O <sub>3</sub> B.		

**ALTERNATIVE TESTING METHODS FOR CONTAMINANTS LISTED AT 40 CFR 141.131(b)(1)**

Contaminant	Methodology	EPA Method	ASTM <sup>4</sup>	SM 21st Edition <sup>1</sup>
TTHM .....	P&T/GC/MS .....	<sup>9</sup> 524.3	.....	6251 B.
HAA5 .....	LLE (diazomethane)/GC/ECD .....	.....	.....	
	Ion Chromatography Electrospray Ionization Tandem Mass Spectrometry (IC–ESI–MS/MS). .....	<sup>14</sup> 557	.....	
Bromate .....	Two-Dimensional Ion Chromatography (IC). .....	<sup>18</sup> 302.0	.....	
	Ion Chromatography Electrospray Ionization Tandem Mass Spectrometry (IC–ESI–MS/MS). .....	<sup>14</sup> 557	.....	
	Chemically Suppressed Ion Chromatography. .....	.....	D 6581–08 A.	
Chlorite .....	Electrolytically Suppressed Ion Chromatography. .....	.....	D 6581–08 B.	
	Chemically Suppressed Ion Chromatography. .....	.....	D 6581–08 A.	
Chlorite—daily monitoring as prescribed in 40 CFR 141.132(b)(2)(i)(A)..	Electrolytically Suppressed Ion Chromatography. .....	.....	D 6581–08 B.	
	Amperometric Titration .....	.....	.....	

**ALTERNATIVE TESTING METHODS FOR DISINFECTANT RESIDUALS LISTED AT 40 CFR 141.131(c)(1)**

Residual	Methodology	SM 21st Edition <sup>1</sup>	ASTM <sup>4</sup>	Other
Free Chlorine .....	Amperometric Titration .....	4500–Cl D .....	D 1253–08	.....
	DPD Ferrous Titrimetric .....	4500–Cl F.		
	DPD Colorimetric .....	4500–Cl G.		
	Syringaldazine (FACTS) .....	4500–Cl H.		

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**40 CFR Ch. I (7-1-11 Edition)**

**ALTERNATIVE TESTING METHODS FOR DISINFECTANT RESIDUALS LISTED AT 40 CFR 141.131(c)(1)—  
Continued**

Residual	Methodology	SM 21st Edition <sup>1</sup>	ASTM <sup>4</sup>	Other
Combined Chlorine	Amperometric Sensor			ChloroSense, <sup>17</sup> EPA 334.0. <sup>16</sup>
	On-line Chlorine Analyzer			
Total Chlorine	Amperometric Titration	4500-CI D	D 1253-08.	ChloroSense, <sup>17</sup> EPA 334.0. <sup>16</sup>
	DPD Ferrous Titrimetric	4500-CI F.		
	DPD Colorimetric	4500-CI G.		
	Amperometric Titration	4500-CI D	D 1253-08.	
	Low level Amperometric Titration	4500-CI E.		
Chlorine Dioxide	DPD Ferrous Titrimetric	4500-CI F.		ChloroSense, <sup>17</sup> EPA 334.0. <sup>16</sup>
	DPD Colorimetric	4500-CI G.		
	Iodometric Electrode	4500-CI I.		
	Amperometric Sensor			
	On-line Chlorine Analyzer			
	Amperometric Method II	4500-CIO <sub>2</sub> E.		

**ALTERNATIVE TESTING METHODS FOR DISINFECTANT RESIDUALS LISTED AT 40 CFR 141.131(c)(2), IF  
APPROVED BY THE STATE**

Residual	Methodology	Method
Free Chlorine	Test Strips	Method D99-003 <sup>5</sup>

**ALTERNATIVE TESTING METHODS FOR PARAMETERS LISTED AT 40 CFR 141.131(d)**

Parameter	Methodology	SM 21st edition <sup>1</sup>	EPA
Total Organic Carbon (TOC)	High Temperature Combustion	5310 B	415.3, Rev 1.2 <sup>19</sup>
	Persulfate-Ultraviolet or Heated Persulfate Oxidation.	5310 C	415.3, Rev 1.2
Specific Ultraviolet Absorbance (SUVA).	Wet Oxidation	5310 D	415.3, Rev 1.2
	Calculation using DOC and UV <sub>254</sub> data.		415.3, Rev 1.2
Dissolved Organic Carbon (DOC).	High Temperature Combustion	5310 B	415.3, Rev 1.2
	Persulfate-Ultraviolet or Heated Persulfate Oxidation.	5310 C	415.3, Rev 1.2
Ultraviolet absorption at 254 nm (UV <sub>254</sub> ).	Wet Oxidation	5310 D	415.3, Rev 1.2
	Spectrophotometry	5910 B	415.3, Rev 1.2

**ALTERNATIVE TESTING METHODS WITH MRL > 0.0010 MG/L FOR MONITORING LISTED AT 40 CFR  
141.132(b)(3)(ii)(B)**

Contaminant	Methodology	EPA method
Bromate	Two-Dimensional Ion Chromatography (IC) Ion Chromatography Electrospray Ionization Tandem Mass Spectrometry (IC-ESI-MS/MS).	302.0 <sup>18</sup> 557 <sup>14</sup>

**ALTERNATIVE TESTING METHODS FOR CONTAMINANTS LISTED AT 40 CFR 141.402(c)(2)**

Organism	Methodology	SM 20th edition <sup>6</sup>	SM 21st edition <sup>1</sup>	SM online <sup>3</sup>	Other
E. coli	Colilert		9223 B	9223 B-97.	ReadyCult <sup>®</sup> , <sup>20</sup> Modified Colitag <sup>™</sup> , <sup>13</sup> Chromocult <sup>®</sup> . <sup>21</sup>
	Colisure		9223 B	9223 B-97.	
	Colilert-18	9223 B	9223 B	9223 B-97.	
	ReadyCult <sup>®</sup>				
	Colitag				
Enterococci	Chromocult <sup>®</sup>				Chromocult <sup>®</sup> , <sup>21</sup>
	Multiple-Tube Technique.			9230 B-04.	

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ALTERNATIVE TESTING METHODS FOR CONTAMINANTS LISTED AT 40 CFR 141.704(b)

Organism	Methodology	SM 20th edition <sup>6</sup>
<i>E. coli</i> .....	Membrane Filtration, Two Step .....	9222 D/9222 G

ALTERNATIVE TESTING METHODS FOR CONTAMINANTS LISTED AT 40 CFR 143.4(b)

Contaminant	Methodology	EPA method	ASTM <sup>4</sup>	SM 21st edition <sup>1</sup>	SM online <sup>3</sup>
Aluminum	Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES).	200.5, Revision 4.2. <sup>2</sup>			
	Atomic Absorption; Direct .....	.....		3111 D	
	Atomic Absorption; Furnace Inductively Coupled Plasma .....	.....		3113 B 3120 B	3113 B-04
Chloride ..	Silver Nitrate Titration .....		D 512-04 B	4500-Cl <sup>-</sup> B	
	Ion Chromatography .....			4110 B	
	Potentiometric Titration .....			4500-Cl <sup>-</sup> D	
Color .....	Visual Comparison .....			2120 B	
Foaming Agents	Methylene Blue Active Substances (MBAS).			5540 C	
Iron .....	Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES).	200.5, Revision 4.2. <sup>2</sup>			
	Atomic Absorption; Direct .....	.....		3111 B	
	Atomic Absorption; Furnace Inductively Coupled Plasma .....	.....		3113 B 3120 B	3113 B-04
Manganese.	Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES).	200.5, Revision 4.2. <sup>2</sup>			
	Atomic Absorption; Direct .....	.....		3111 B	
	Atomic Absorption; Furnace Inductively Coupled Plasma .....	.....		3113 B 3120 B	3113 B-04
Odor .....	Threshold Odor Test .....			2150 B	
Silver .....	Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES).	200.5, Revision 4.2. <sup>2</sup>			
	Atomic Absorption; Direct .....	.....		3111 B	
	Atomic Absorption; Furnace Inductively Coupled Plasma .....	.....		3113 B 3120 B	3113 B-04
Sulfate ....	Ion Chromatography .....			4110 B	
	Gravimetric with ignition of residue.			4500-SO <sub>4</sub> <sup>-2</sup> C	4500-SO <sub>4</sub> <sup>-2</sup> C-97
	Gravimetric with drying of residue.			4500-SO <sub>4</sub> <sup>-2</sup> D	4500-SO <sub>4</sub> <sup>-2</sup> D-97
	Turbidimetric method .....		D 516-07	4500-SO <sub>4</sub> <sup>-2</sup> E	4500-SO <sub>4</sub> <sup>-2</sup> E-97
	Automated methylthymol blue method.			4500-SO <sub>4</sub> <sup>-2</sup> F	4500-SO <sub>4</sub> <sup>-2</sup> F-97
Total Dissolved Solids.	Total Dissolved Solids Dried at 180 deg C.			2540 C	
Zinc .....	Axially viewed inductively coupled plasma-atomic emission spectrometry (AVICP-AES).	200.5, Revision 4.2.			
	Atomic Absorption; Direct Aspiration.			3111 B	
	Inductively Coupled Plasma .....			3120 B	

[74 FR 38353, Aug. 3, 2009, as amended at 74 FR 57914, Nov. 10, 2009; 74 FR 63069, Dec. 2, 2009; 75 FR 32299, June 8, 2010; 76 FR 37018, June 24, 2011]

<sup>1</sup>Standard Methods for the Examination of Water and Wastewater, 21st edition (2005). Available from American Public Health Association, 800 I Street, NW., Washington, DC 20001-3710.

<sup>2</sup>EPA Method 200.5, Revision 4.2. "Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma-Atomic Emission Spectrometry." 2003. EPA/600/R-06/115. (Available at <http://www.epa.gov/nerlcwww/ordmeth.htm>.)

<sup>3</sup>Standard Methods Online are available at <http://www.standardmethods.org>. The year in which each method was approved by the Standard Methods Committee is designated by the last two digits in the method number. The methods listed are the only online versions that may be used.

<sup>4</sup>Available from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959 or <http://astm.org>. The methods listed are the only alternative versions that may be used.

<sup>5</sup>Method D99-003, Revision 3.0. "Free Chlorine Species (HOCl<sup>-</sup> and OCl<sup>-</sup>) by Test Strip," November 21, 2003. Available from Industrial Test Systems, Inc., 1875 Langston St., Rock Hill, SC 29730.

<sup>6</sup>Standard Methods for the Examination of Water and Wastewater, 20th edition (1998). Available from American Public Health Association, 800 I Street, NW., Washington, DC 20001-3710.

<sup>7</sup>Method ME355.01, Revision 1.0. "Determination of Cyanide in Drinking Water by GC/MS Headspace," May 26, 2009. Available at <http://www.nemi.gov> or from James Eaton, H & E Testing Laboratory, 221 State Street, Augusta, ME 04333. (207) 287-2727.

<sup>8</sup>Systea Easy (1-Reagent). "Systea Easy (1-Reagent) Nitrate Method," February 4, 2009. Available at <http://www.nemi.gov> or from Systea Scientific, LLC., 900 Jorie Blvd., Suite 35, Oak Brook, IL 60523.

<sup>9</sup>EPA Method 524.3, Version 1.0. "Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry," June 2009. EPA 815-B-09-009. Available at [http://epa.gov/safewater/methods/analyticalmethods\\_ogwdw.html](http://epa.gov/safewater/methods/analyticalmethods_ogwdw.html).

<sup>10</sup>Mitchell Method M5271, Revision 1.1. "Determination of Turbidity by Laser Nephelometry," March 5, 2009. Available at <http://www.nemi.gov> or from Leck Mitchell, PhD, PE, 656 Independence Valley Dr., Grand Junction, CO 81507.

<sup>11</sup>Mitchell Method M5331, Revision 1.1. "Determination of Turbidity by LED Nephelometry," March 5, 2009. Available at

<http://www.nemi.gov> or from Leck Mitchell, PhD, PE, 656 Independence Valley Dr., Grand Junction, CO 81507.

<sup>12</sup>Orion Method AQ4500, Revision 1.0. "Determination of Turbidity by LED Nephelometry," May 8, 2009. Available at <http://www.nemi.gov> or from Thermo Scientific, 166 Cummings Center, Beverly, MA 01915, <http://www.thermo.com>.

<sup>13</sup>Modified Colitag™ Method, "Modified Colitag™ Test Method for the Simultaneous Detection of *E. coli* and other Total Coliforms in Water (ATP D05-0035)," August 28, 2009. Available at <http://www.nemi.gov> or from CPI, International, 580 Skyline Boulevard, Santa Rosa, CA 95403.

<sup>14</sup>EPA Method 557. "Determination of Haloacetic Acids, Bromate, and Dalapon in Drinking Water by Ion Chromatography Electrospray Ionization Tandem Mass Spectrometry (IC-ESI-MS/MS)," September 2009. EPA 815-B-09-012. Available at [http://water.epa.gov/scitech/drinkingwater/labcert/analyticalmethods\\_expedited.cfm](http://water.epa.gov/scitech/drinkingwater/labcert/analyticalmethods_expedited.cfm).

<sup>15</sup>AMI Turbiwell, "Continuous Measurement of Turbidity Using a SWAN AMI Turbiwell Turbidimeter," August 2009. Available at <http://www.nemi.gov> or from Markus Bernasconi, SWAN Analytische Instrumente AG, Studbachstrasse 13, CH-8340 Hinwil, Switzerland.

<sup>16</sup>EPA Method 334.0. "Determination of Residual Chlorine in Drinking Water Using an On-line Chlorine Analyzer," August 2009. EPA 815-B-09-013. Available at [http://epa.gov/safewater/methods/analyticalmethods\\_ogwdw.html](http://epa.gov/safewater/methods/analyticalmethods_ogwdw.html).

<sup>17</sup>ChloroSense. "Measurement of Free and Total Chlorine in Drinking Water by Palintest ChloroSense," September 2009. Available at <http://www.nemi.gov> or from Palintest Ltd, 21 Kenton Lands Road, PO Box 18395, Erlanger, KY 41018.

<sup>18</sup>EPA Method 302.0. "Determination of Bromate in Drinking Waters using Two-Dimensional Ion Chromatography with Suppressed Conductivity Detection," September 2009. EPA 815-B-09-014. Available at [http://epa.gov/safewater/methods/analyticalmethods\\_ogwdw.html](http://epa.gov/safewater/methods/analyticalmethods_ogwdw.html).

<sup>19</sup>EPA 415.3, Revision 1.2. "Determination of Total Organic Carbon and Specific UV Absorbance at 254 nm in Source Water and Drinking Water," August 2009. EPA/600/R-09/122. Available at <http://www.epa.gov/nerlcwww/ordmeth.htm>.

<sup>20</sup>Readycult® Method, "Readycult® Coliforms 100 Presence/Absence Test for Detection and Identification of Coliform Bacteria and *Escherichia coli* in Finished Waters," January, 2007. Version 1.1. Available from EMD Chemicals (affiliate of Merck KGaA, Darmstadt, Germany), 480 S. Democrat Road, Gibbstown, NJ 08027-1297.

<sup>21</sup>Chromocult® Method, "Chromocult® Coliform Agar Presence/Absence Membrane