SC DEPARTMENT *of*
**ENVIRONMENTAL SERVICES**

# Application for Environmental Laboratory Certification

Office of Environmental Laboratory Certification

**Personal information provided in this document is subject to public scrutiny or release.**

**COMPLETE AND SUBMIT ONLY THE APPLICABLE PAGES FOR CERTIFICATION**

**A. Purpose of Application:** Check one and complete the information.

☐ Initial Certification (New Lab) EPA Lab Code ___ ___ ___ ___ ___ ___ ___

☐ Additional Parameter Certification Assigned S.C. Laboratory I.D. # ___ ___ ___ ___ ___

☐ PT Recertification (Due to PT Failure) Certificate # (Ex: 001, 002, etc.) ___ ___ ___

☐ Recertification of Entire Lab (Lab Previously Certified) **– –** Old SC Laboratory I.D. # ___ ___ ___ ___ ___

☐ Change in Certifying Authority - From:_____ to _____

**B. Type of Laboratory**

☐ Commercial ☐ Federal ☐ Industrial ☐ Mobile ☐ Municipal ☐ State ☐ Field

**C. Laboratory Name:** As preferred to be on certificate. Names will be abbreviated as needed to fit certificate.

**D. Legal Company Name:** Name as registered with the South Carolina Secretary of State's Office.

**E. Laboratory's Federal Employee Tax ID Number (FEIN):** ___ ___ -- ___ ___ ___ ___ ___ ___ ___

Is the FEIN assigned to the Company listed in **D.**?_____ If not, list Parent Company in **F.** below.

**F. Parent Company Name:** If different from legal company name above, enter the name of the parent company that owns the laboratory.

**G. Laboratory Mailing Address:**

(P.O. Box or Number and Street)

(City) (State) (Zip Code)

**H. Laboratory Business (Physical) Address:**

(Number and Street)

(City) (State) (Zip Code) (County Code)

**I. Laboratory Telephone Number:** **Laboratory FAX Number:**

**J. Laboratory Billing Address (for Certification Invoices):**

(Billing Name)

(P.O. Box or Number and Street)

(City) (State) (Zip Code)

**K. Laboratory E-mail Address:**

**L. Parent Company Business (Physical) Address:**

(Number and Street)

(City) (State) (Zip Code)

**M. Parent Company Telephone Number:**

**N. Out-of-State Laboratories Only:** Only one State Certifying Authority can be designated for each program below and the State Certifying Authority must have performed an on-site laboratory evaluation within last 3 years.

**Safe Drinking Water Act:**
Name of State Certifying Authority:_____ Expiration Date: _____

**Clean Water Act:**
Name of State Certifying Authority:_____ Expiration Date: _____

**Solid and Hazardous Waste:**
Name of State Certifying Authority:_____ Expiration Date: _____

**O. Laboratory Director: (Primary Contact) -** Designate the person responsible for the laboratory operations. **Attach a resume´ and/or qualifications**. **A laboratory director designation letter must accompany the application if not already on file.**

Name and Title

Telephone Number & Ext Mobile Number E-Mail Address:

Education:
Name of Institution: _____

Degree: _____ Major Field: _____

Certificates or Registrations Held: _____

Issuing Agency: _____ Date of Issue:_____

Experience (related to laboratory analysis):_____

_____

_____

**P. Quality Assurance Officer or General Certification Contact Person for Laboratory:**

Name and Title

Telephone Number & Ext | Mobile Number | E-Mail Address:

**Q. Laboratory Personnel:** List all personnel involved in the laboratory operations. Please make copies of this form for additional personnel. Resumes may be attached.

**Name:** _____ **Position Held:** _____

Education and Experience: _____

License or Registration: _____

Primary Responsibilities in the Laboratory: _____

**Name:** _____ **Position Held:** _____

Education and Experience: _____

License or Registration: _____

Primary Responsibilities in the Laboratory: _____

**Name:** _____ **Position Held:** _____

Education and Experience: _____

License or Registration: _____

Primary Responsibilities in the Laboratory: _____

**Name:** _____ **Position Held:** _____

Education and Experience: _____

License or Registration: _____

Primary Responsibilities in the Laboratory: _____

**R. Safe Drinking Water Act Methodology:**

Disinfection By-Products: Circle only the EPA-approved methodology that the laboratory is seeking certification to Perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter and method circled.

| Parameter | Methodology[1] | | |
|---|---|---|---|
| | EPA | Standard Methods | Other |
| Bromate | 300.1 (1987)<br>302 (2009)<br>317.0[45] (2001)<br>326.0[45] (2002)<br>321.8[45,46] (1987)<br>557 (2009) | | |
| Bromide | 300.0 (1993)<br>300.1 (1987) | | |
| Chlorite (Monthly/Daily)[11] | 300.0 (1993)<br>300.1 (1997)<br>317.0 (2001)<br>326.0 (2002)<br>327.0 (2005) | SM 4500-ClO2 E-2021[11] | |
| $UV_{254}$ [49] | 415.3 (2009) | SM 5910 B-2021 | |

Inorganic-Demand: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter and method circled.

| Parameter | Methodology[1] | | |
|---|---|---|---|
| | EPA | Standard Methods | Other |
| Total Organic Carbon/ Dissolved Organic Carbon (TOC/DOC)[47,48] | 415.3 (2009) | SM 5310 B-2022<br>SM 5310 C-2014<br>SM 5310 D-2011 | |

Inorganic Mineral: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter and method circled.

| Parameter | Methodology[1] | | |
|---|---|---|---|
| | EPA | Standard Methods | Other |
| Alkalinity | | SM 2320 B-2021 | |
| Calcium-Hardness | | SM 3500-Ca B-2020 | |
| Chloride | 300.0 (1993)<br>300.1 (1997) | SM 4110 B-2020<br><br>SM 4500-$Cl^-$ B-2021<br>SM 4500-$Cl^-$ D-2021 | |
| Fluoride | 300.0 (1993)<br>300.1 (1997) | SM 4110 B-2020<br>SM 4500-$F^-$ B -2021<br>SM 4500-$F^-$ C-2021<br>SM 4500-$F^-$ D -2021<br>SM 4500-$F^-$ E-2021 | |
| Hydrogen-Ion Concentration (pH) | 150.1 (1983)<br>150.2 (1983) | SM 4500 $H^+$ B-2021 | |
| Specific Conductance | | SM 2510 B-2021 | |
| Sulfate | 300.0 (1993)<br>300.1 (1997)<br>375.2 (1993) | SM 4110 B-2020<br><br>SM 4500-$SO_4^{2-}$ F-2021<br><br>SM 4500-$SO_4^{2-}$ C-2021<br>SM 4500-$SO_4^{2-}$ D-2021<br>SM 4500-$SO_4^{2-}$ E-2021 | |

**R. Safe Drinking Water Act Methodology:**

Inorganic-Miscellaneous: Circle only the methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The Certifying Authority's certificate must reflect the certification for each parameter and method circled.

| Parameter | Methodology[1] | | |
|---|---|---|---|
| | EPA | Standard Methods | Other |
| Asbestos | 100.1 (1983)<br>100.2 (1994) | | |
| Chlorine Dioxide | 327.0 (2003) | SM 4500-ClO2 C-2021[8]<br>SM 4500-ClO2 E-2021 | |
| Color - Visual<br>- Spectrophotometric (Plat. Cobalt) | | SM 2120 B-2021 | NCASI-71.01-TB803 (2000)[9] |
| Cyanide,Total (Screening)[31]<br>(Manual Distillation Required) | 335.4 (1993) | SM 4500-$CN^-$ C-2021 | 10-204-00-1-X (Rev. 2.1, 2000)<br>OIA-1677[32] |
| | 335.4 (1993) | SM 4500-CN- E-2021<br>SM 4500-CN- F-2021<br>SM 4500-CN- G-2021[31] | |
| Odor | | SM 2150 B-2020 | |
| Ozone | | SM 4500-$O_3$ B-2021 | |
| Residual Chlorine | | SM 4500-Cl D-2021<br>SM 4500-Cl E-2021<br>SM 4500-Cl F-2021<br>SM 4500-Cl G-2021 | |
| Surfactants (MBAS) | | SM 5540 C-2021 | |
| Temperature | | SM 2550 B-2021 | |
| Turbidity – 90° Nephelometry (Tungsten Lamp) | 180.1 (1993) | SM 2130 B-2020 | |
| Turbidity – 90° Nephelometry (LED) | | | Orion AQ 4500 (Rev. 1.0, 2009) |
| Turbidity – 360° Nephelometry (Laser) | | | Hach 10258 (Rev. 2.0, 2018) |

Inorganic – Nutrient: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter and method circled.

| Parameter | Methodology[1] | | |
|---|---|---|---|
| | EPA | Standard Methods | Other |
| Nitrate-Nitrogen | 300.0 (1993)<br>300.1 (1997)<br>353.2 (1993) | SM 4110 B-2020<br><br>SM 4500-$NO_3^-$ F-2019<br>SM 4500-$NO_3^-$ E-2019<br>SM 4500-$NO_3^-$ D-2019 | |
| Nitrate-Nitrite ($NO_3$ + $NO_2$) | 300.0 (1993)<br>300.1 (1997)<br>353.2 (1993) | SM 4110 B-2020<br><br>SM 4500-$NO_3^-$ F-2019<br>SM 4500-$NO_3^-$ E-2019 | |
| Nitrite-Nitrogen | 300.0 (1993)<br>300.1 (1997)<br>353.2 (1993) | SM 4110 B-2020<br><br>SM 4500-$NO_3^-$ F-2019<br>SM 4500-$NO_3^-$ E-2019<br>SM 4500-$NO_2^-$ B-2021 | |
| Orthophosphate | 300.0 (1993)<br>300.1 (1997)<br>365.1 (1993) | SM 4110 B-2020<br><br>SM 4500-P F-2021<br>SM 4500-P E-2021 | |
| Phosphorus | 300.0 (1993)<br>365.1 (1993)<br>365.2 (1971)<br>365.3 (1978) | SM 4110 B-2020<br>SM 4500-P F-2021<br><br>SM 4500-P E-2021 | |

**R. Safe Drinking Water Act Methodology:**

Inorganic – Trace Metal: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter and method circled.

| Parameter | GFAA/ Platform | GFAA/ Furnace | ICP | | ICP/ MS | Other | |
|---|---|---|---|---|---|---|---|
| | EPA[1] | SM[1] | EPA[1] | SM[1] | EPA[1] | EPA[1] | SM[1] |
| Aluminum | 200.9 (1994) | 3113 B-2020 | 200.7 (1994) | 3120 B-2020 | 200.8 (1994) | | 3111 D-2019 |
| Antimony | 200.9 (1994) | 3113 B-2020 | | | 200.8 (1994) | | |
| Arsenic | 200.9 (1994) | 3113 B-2020 | | | 200.8 (1994) | | |
| Barium | | 3113 B-2020 | 200.7 (1994) | 3120 B-2020 | 200.8 (1994) | | 3111 D-2019 |
| Beryllium | 200.9 (1994) | 3113 B-2020 | 200.7 (1994) | 3120 B-2020 | 200.8 (1994) | | |
| Cadmium | 200.9 (1994) | 3113 B-2020 | 200.7 (1994) | | 200.8 (1994) | | |
| Calcium | | | 200.7 (1994) | 3120 B-2020 | | | 3111 B-2019 |
| Chromium | 200.9 (1994) | 3113 B-2020 | 200.7 (1994) | 3120 B-2020 | 200.8 (1994) | | |
| Copper | 200.9 (1994) | 3113 B-2020 | 200.7 (1994) | 3120 B-2020 | 200.8 (1994) | | 3111 B-2019 |
| Iron | 200.9 (1994) | 3113 B-2020 | 200.7 (1994) | 3120 B-2020 | | | 3111 B-2019 |
| Lead | 200.9 (1994) | 3113 B-2020 | | | 200.8 (1994) | | |
| Magnesium | | | 200.7 (1994) | 3120 B-2020 | | | 3111 B-2019 |
| Manganese | 200.9 (1994) | 3113 B-2020 | 200.7 (1994) | 3120 B-2020 | 200.8 (1994) | | 3111 B-2019 |
| Mercury | | | | | 200.8 (1994) | 245.1 (1983)<br>245.2 (1994) | 3112 B-2020 |
| Nickel | 200.9 (1994) | 3113 B-2020 | 200.7 (1994) | 3120 B-2020 | 200.8 (1994) | | 3111 B-2019 |
| Selenium | 200.9 (1994) | 3113 B-2020 | | | 200.8 (1994) | | |
| Silica | | | 200.7 (1994) | 3120 B-2020 | | | 4500 $SiO_2$ C-2021<br>D4500 $SiO_2$ E-2021 |
| Silver | 200.9 (1994) | 3113 B-2020 | 200.7 (1994) | 3120 B-2020 | 200.8 (1994) | | 3111 B-2019 |
| Sodium | | | 200.7 (1994) | | | | 3111 B-2019 |
| Thallium | 200.9 (1994) | | | | 200.8 (1994) | | |
| Zinc | | | 200.7 (1994) | 3120 B-2020 | 200.8 (1994) | | 3111 B-2019 |

**R. Safe Drinking Water Act Methodology:**

Inorganic – Residue: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification from each parameter and method circled.

| Parameter | Methodology[1] | | |
|---|---|---|---|
| | EPA | Standard Methods | Other |
| Residue, Filterable (TDS) | | SM 2540 C-2020 | |

Microbiology: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. The laboratory must be approved for a total coliform method and an *E. coli* method. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter and method circled.

| Parameter | Methodology[1] |
|---|---|
| *E.coli* Enumeration (MF) | SM 9222B/9222H-2015<br>SM 9222 J-2015<br>m-ColiBlue24®[6] (1999) |
| *E.coli* Enumeration (MPN) | SM 9221B/9221F-2014 |
| Heterotrophic Bacteria[37] | SM 9215 B-2022<br>SimPlate[36] (2000) |
| Total Coliform (MF)[2]<br>*E.coli* Confirmation<br><br>Total Coliform/*E. col*i (simultaneous) | SM 9222 B-2015 (m-Endo medium)<br>SM 9222 H-2015<br><br>SM 9222 J-2015<br>m-ColiBlue24® [6] (1999) |
| Total Coliform (MPN) | SM 9221 B-2014 |
| Total Coliform (P-A)<br>*E. coli* Confirmation | SM 9221 D-2014<br>SM 9221 F-2014 |
| Total Coliform/*E. coli* - Presence/Absence<br>Enzyme Substrate<br><br><br>Membrane Filtration | SM 9223 B-2016 Colilert[3]<br>SM 9223 B-2016 Colisure® [4]<br>Modified Colitag® [40] (2020)<br>TECTA EC/TC (2017)<br><br>SM 9222 J-2015<br>m-ColiBlue24® [6] (1999) |
| Total Coliform/*E. coli* (MPN)* | SM 9223 B-2016 Colilert Quanti-Tray® [3] |
| Cryptosporidium | EPA 1622 (2005)<br>EPA 1623 (2005)<br>EPA 1623.1 (2012) |

* Method can be used for reporting under the TCR, SWTR, and LT2 Rule.
LT2 Rule requires enumeration of *E.Coli.*

Trihalomethanes: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each method and organic contaminant circled.

| Parameter | EPA Methodology[1] | | | |
|---|---|---|---|---|
| | GC | | GC/MS | |
| Volatile Organics by P&T – GC/PID/Hall | 502.2 (1995) | | | |
| Purgeable Organics by Cap. Col. – GC/MS | | | 524.2 (1995) | 524.3 (2009)<br>524.4 (2013) |
| Disinfection Byproducts & Chlor. Solvents GC-ECD | | 551.1 (1995) | | |

**R. Safe Drinking Water Act Methodology:**

Volatiles (VOCs): Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each method and organic contaminant circled.

| Parameter | EPA Methodology[1] | | | |
|---|---|---|---|---|
| | GC | | GC/MS | |
| Volatile Organics by P&T – GC/PID/Hall | 502.2 (1995) | | | |
| Purgeable Organics by Cap. Col. – GC/MS | | | 524.2 (1995) | 524.3 (2009)<br>524.4 (2013) |
| Disinfection Byproducts & Chlor. Solvents GC/ECD | | 551.1 (1995) | | |

Synthetic Organic Chemicals (SOCs): Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each method and organic contaminant circled.

| Analytical Method | EPA Methodology[1] | | | | |
|---|---|---|---|---|---|
| | GC | | GC/MS | HPLC | |
| Tetra-Octa-Chlor. Dioxins & Furans - HRGC/HRMS | | | 1613B (1994) | | |
| EDB, DBCP, 1,2,3 TCP by Microext - GC/ECD | 504.1 (1995) | | | | |
| Organohalide Pest & PCBs by Microext - GC/ECD | 505[16] (1995) | | | | |
| Phthalate and Adipate Esters - GC-PID | 506 (1995) | | | | |
| Nitrogen & Phosphorus Pesticides - GC/NPD | 507 (1995) | | | | |
| Chlorinated Pesticides by Liq-Liq Ext. - GC/ECD | 508 (1995) | | | | |
| Chlorinated Pesticides by LSE - GC/ECD | 508.1 (1995) | | | | |
| Screening for PCBs by Perchlorination - GC/ECD | 508A[14] (1989) | | | | |
| Chlorinated Acids by Liq-Liq Ext. - GC/ECD | 515.1 (1989) | | | | |
| Chlorinated Acids by Liq-Solid Ext. - GC/ECD | 515.2 (1995) | | | | |
| Chlorinated Acids by Liq-Liq Ext. - GC/ECD | 515.3 (1996) | 555 (1992) | | | |
| Chlorinated Acids by Liq-Liq Micro Ext - GC/ECD | 515.4 (2000) | | | | |
| Organic Compounds by Liq-Solid Ext. - GC/MS | | | 525.2 (1995) 525.3 (2012) | | |
| N-Methylcarbamoyloximes & Carbamates - HPLC | | | | 531.1 (1995) 531.2 (2001) | |
| Glyphosate - HPLC/Fluorescence Detector | | | | 547 (1990) | SM 6651 B-2021 |
| Endothall - GC/MS | | | 548.1 (1992) | | |
| Diquat & Paraquat - HPLC/UV Detector | | | | 549.2 (1997) | |
| Polynuclear Arom. Hydroc. (PAHs) - HPLC/UV & Fluorescence | | | | | 550 (1990) 550.1 (1990) |
| Disinfection By-Products, Chlor. Solvents,Halogenated Pest/Herb - GC/ECD | 551.1 (1995) | | | | |
| Haloacetic Acids & Dalapon by Ion Exchange Liq-Solid Ext. – GC/ECD | 552.1 (1992) | | | | |
| Haloacetic Acids & Dalapon by Liq-Liq Ext. - GC-ECD | 552.2 (1995) 552.3 (2003) | SM 6251 B-2020 | | | |

**R. Safe Drinking Water Act Methodology:**

Per- and Polyfluorinated Alkyl Substances: Note that only the EPA-approved analytes are listed and that laboratories must get certification for each analyte i.e., all or none for the method(s) selected. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each method / PFAS analyte.

| Analyte | EPA Methodology[1] | |
|---|---|---|
| | LC/MS/MS | |
| Perfluorooctanoic Acid (PFOA) | 533 (2019) | 537.1 (2020) |
| Perfluorooctane Sulfonic Acid (PFOS) | 533 (2019) | 537.1 (2020) |
| Perfluorohexane Sulfonic Acid (PFHxS) | 533 (2019) | 537.1 (2020) |
| Perfluorononanoic Acid (PFNA) | 533 (2019) | 537.1 (2020) |
| Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) aka Gen X | 533 (2019) | 537.1 (2020) |
| Perfluorobutane Sulfonic Acid (PFBS) | 533 (2019) | 537.1 (2020) |

Inorganic – Radiological: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certification must reflect the appropriate certification for each parameter and method circled.

| Parameter | EPA[1]Methodology | StandardMethods[1] |
|---|---|---|
| $^{131}$Iodine | 901.1 (1980)<br>902.0 (1980) | SM 7120 B-2021<br>SM 7500-I B-2020<br>SM 7500-I C-2020<br>SM 7500-I D-2020 |
| Gross Alpha | 900.0 (2018) | SM 7110 B-2021<br>SM 7110 C-2021 |
| Gross Beta | 900.0 (2018) | SM 7110 B-2021 |
| $^{226}$Radium | 903.0 (2021)<br>903.1 (2021) | SM 7500-Ra B-2021<br>SM 7500-Ra C-2021<br>SM 7500-Ra E-2007 |
| $^{228}$Radium | 904.0 (1980) | SM 7500-Ra D-2021<br>SM 7500-Ra E-2007 |
| $^{89}$Strontium | 905.0 (1980) | SM 7500-Sr B-2021 |
| $^{90}$Strontium | 905.0 (1980) | SM 7500-Sr B-2021 |
| Tritium | 906.0 (1980) | SM 7500-$^{3}$H B-2022 |
| Uranium<br>Radiochemical<br>Fluorometric<br>Alpha Spectrometry<br>ICP/MS | <br>908.0 (1980)<br>908.1 (1980)<br><br>200.8 (1994) | <br>SM 7500-U B-2021<br><br>SM 7500-U C-2021 |
| Gamma Emitters [43] | 901.1 (1980)<br>902.0 (1980)<br>901.0 (1980) | SM 7120 B-2021<br>SM 7500 Cs B-2020<br>SM 7500 I B-2020 |

**S. Clean Water Act Methodology:**

Microbiology: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter and method circled.

| Parameter | Methodology[1] | | |
|---|---|---|---|
| | EPA | Standard Methods | Other |
| Enterococci (MF) | 1600.1 (2023) | SM 9230 C-2013 | |
| Enterococci (MPN) | | SM 9230 D-2013 (Enterolert®[17]) | |
| Fecal Coliform (MF) | | SM 9222 D-2015 | |
| Fecal Coliform (MPN) | | SM 9221 C E-2014<br>SM 9221 F - 2014 | Colilert® 18 (2010)[20] |
| Fecal Coliform (MPN)<br>Biosolids<br>Biosolids Preparation | 1680 (2010)[24]<br>1681 (2006)[24] | SM 9221 E-2014 (Biosolids Preparation Certification Required) | EPA/625/R-92/013 App F[42] (2003) |
| Total Coliform (MF) | | SM 9222 B-2015 | |
| Total Coliform (MPN) | | SM 9221 B-2014 | |
| Fecal Streptococci (MF) | | SM 9230 C-2013 | |
| Fecal Streptococci (MPN) | | SM 9230 B-2013 | |
| *E. Coli* (MF) | 1603.1 (2023) | SM 9222 B-2015/SM9222 I-2015 | m-ColiBlue24®[6] (1999) |
| *E. Coli* (MPN) | | SM 9223B-2016 (Colilert®/Colilert-18®)<br>SM 9221B-2014/9221F-2014 | |
| **Cryptosporidium* | 1622 (2005)<br>1623 (2005)<br>1623.1 (2012) | | |
| **Giardia* | 1623 (2005)<br>1623.1 (2012 | | |

* For ambient water testing only.

Taxonomy: Circle the parameter that the laboratory is seeking certification to perform.

| Parameter | Methodology |
|---|---|
| Freshwater Fish | Key/Reference |
| Freshwater Macroinvertebrates | Key/Reference |
| Ichthyoplankton | Key/Reference |
| Macrophytes | Key/Reference |
| Marine/Estuarine Fish | Key/Reference |
| Marine/Estuarine Macroinvertebrates | Key/Reference |
| Periphyton | Key/Reference |
| Phytoplankton | Key/Reference |
| Zooplankton | Key/Reference |

**S. Clean Water Act Methodology:**

Toxicity Testing: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Laboratories must be certified for pH, DO, alkalinity, specific conductance, hardness, and residual chlorine in order to become certified for toxicity. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter and method circled. If the certificate does not state that the laboratory's certification includes pH, DO, alkalinity, specific conductance, hardness, and residual chlorine; a letter from the State Certifying Authority stating that these parameters have been evaluated, must be submitted with this application.

| Parameter | Methodology[1] |
|---|---|
| ***Ceriodaphnia dubia*** | |
| Acute Toxicity - *Ceriodaphnia dubia* | EPA 2002.0 (2002) |
| Chronic Toxicity - *Ceriodaphnia dubia* | EPA 1002.0 (2002) |
| | |
| ***Mysidopsis bahia (Americamysis bahia)*** | |
| Acute Toxicity - *Mysidopsis bahia* | EPA 2007.0 (2002) |
| Chronic Toxicity - *Mysidopsis bahia* | EPA 1007.0 (2002) |
| | |
| ***Pimephales promelas*** | |
| Acute Toxicity - *Pimephales promelas* | EPA 2000.0 (2002) |
| Chronic Toxicity - *Pimephales promelas* | EPA 1000.0 (2002) |
| | |
| ***Daphnia ambigua*** | |
| Acute Toxicity - *Daphnia ambigua* | EPA 2002.0 (2002) |
| Chronic Toxicity - *Daphnia ambigua* | EPA 1002.0 (2002) |
| | |
| ***Cyprinodon variegatus*** | |
| Acute Toxicity - *Cyprinodon variegatus* | EPA 2004.0 (2002) |
| Chronic Toxicity - *Cyprinodon variegatus* | EPA 1004.0 (2002) |
| | |
| ***Menidia beryllina*** | |
| Acute Toxicity – *Menidia beryllina* | EPA 2006.0 (2002) |
| Chronic Toxicity – *Menidia beryllina* | EPA 1006.0 (2002) |

Inorganic – Biological Examinations: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter and method circled where applicable.

| Parameter | Methodology[1] | | |
|---|---|---|---|
| | EPA | Standard Methods | Other |
| Biomass – Plankton | | SM 10200 I-2020 | |
| Biomass – Periphyton (Dry Weight) | | SM 10300 C-2021 | |
| Chlorophyll a | 445.0 (1997)[41] | SM 10200 H-2020 | |

**S. Clean Water Act Methodology:**

Inorganic – Demand: Circle only the EPA-approved methodology that the laboratory is seeking to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter and method circled.

| Parameter | Methodology[1] | | |
|---|---|---|---|
| | EPA | Standard Methods | Other |
| Biochemical Oxygen Demand ($BOD_5$) (DO Certification Required) | | SM 5210 B-2016 | Hach 10360 Rev.1.2 (2011)[5] |
| Carbonaceous BOD ($CBOD_5$) (DO Certification Required) | | SM 5210 B-2016 | Hach 10360 Rev.1.2 (2011)[5] |
| Chemical Oxygen Demand | 410.3 (1978)<br><br>410.4 (1993) | SM 5220 B-2011<br>SM 5220 C-2011<br>SM 5220 D-2011 | <br><br>Hach 8000 (1979) |
| Dissolved Oxygen (DO) | | SM 4500-O C-2016<br>SM 4500-O G-2016<br><br>SM 4500-O H-2016 | ASTM D888-18(A)<br>ASTM D888-18(B)<br>ASTM D888-18(C)[5]<br>Hach 10360 Rev.1.2 (2011)[5] |
| Total Organic Carbon (TOC) | | SM 5310 B-2014<br>SM 5310 C-2014<br>SM 5310 D-2011 | |

Inorganic – Mineral: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter and method circled.

| Parameter | Methodology[1] | | |
|---|---|---|---|
| | EPA | Standard Methods | Other |
| Acidity | | SM 2310 B-2020 | |
| Alkalinity | <br>310.2 (1974) | SM 2320 B-2021 | |
| Chloride | 300.0 (1993)<br>300.1 (1997) | SM 4110 B-2020<br>SM 4110 C-2020<br>SM 4500-$Cl^-$ B-2021<br>SM 4500-$Cl^-$ E-2021<br>SM 4500-$Cl^-$ D-2021<br>SM 4500-$Cl^-$ C-2021 | |
| Fluoride | 300.0 (1993)<br>300.1 (1997) | SM 4110 B-2020<br>SM 4110 C-2020 | |
| Manual distillation required: | | SM 4500-$F^-$ B-2021 | |
| Followed by: | | SM 4500-$F^-$ D-2021<br>SM 4500-$F^-$ C-2021<br>SM 4500-$F^-$ E-2021 | |
| Hardness, Total ($CaCO_3$) | 130.1 (1971) | <br>SM 2340 C-2021<br>SM 2340 B-2021(calc.) | |
| Hydrogen-Ion Concentration (pH) | <br>150.2 (1982) | SM 4500-$H^+$ B-2021 | |
| Specific Conductance | 120.1(1982) | SM 2510 B-2021 | |
| Sulfate | 300.0 (1993)<br>300.1 (1997)<br><br><br><br>375.2 (1993) | SM 4110 B-2020<br>SM 4110 C-2020<br>SM 4500-$SO_4^{2-}$ C-2021<br>SM 4500-$SO_4^{2-}$ D-2021<br>SM 4500-$SO_4^{2-}$ E-2021<br>SM 4500-$SO_4^{2-}$ F-2021<br>SM 4500-$SO_4^{2-}$ G-2021 | |

## S. Clean Water Act Methodology

Inorganic – Miscellaneous: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter and method circled.

| Parameter | Methodology[1] | | |
|---|---|---|---|
| | EPA | Standard Methods | Other |
| Adsorbable Organic Halides (AOX) | 1650C (1997) | | |
| Bromide | 300.0 (1993)<br>300.1 (1997) | SM 4110 B-2020<br>SM 4110 C-2020<br>SM 4110 D-2020<br>SM 4140 B-2011 | |
| Color<br>- ADMI (Tristimulus)<br>- Visual(Platinum Cobalt)<br>- Spectrophotometric (Plat.Cobalt) | | SM 2120 F-2021<br>SM 2120 B-2021 | NCASI 71.01-TB803 (2000) |
| Cyanide, Total | | | ASTM D7511-12 |
| Distillation with $MgCl_2$ required: | 335.4 (1993) | SM 4500-$CN^-$ B,C-2021 | 10-204-00-1-X[34] |
| Followed by: | 335.4 (1993) | SM 4500-$CN^-$ D-2021<br>SM 4500-CN- E-2021<br>SM 4500-CN- F-2021<br>SM 4500-$CN^-$ N-2021 | 10-204-00-1-X[34] |
| Cyanide, Amenable (Must be certified for Total Cyanide) | | SM 4500-$CN^-$G-2021[33] | |
| Cyanide Available | | | OIA-1677-09[32] |
| Cyanide, Free | | | OIA-1677-09[32] |
| Hydrogen Peroxide ($H_2O_2$) | | | Hach 10290 (2019)[50] |
| Peracetic Acid (PAA) | | | Hach 10290 (2019)[50] |
| Oil and Grease | 1664B (2010) | SM 5520B-2021<br>SM 5520G-2021 | |
| Phenols<br>Manual distillation required: | 420.1 (1978) | SM 5530B-2021 | |
| Followed by: | 420.1 (1978)<br>420.4 (1993) | SM 5530D-2021 | |
| Residual Chlorine | | SM 4500-Cl B-2011<br>SM 4500-Cl C-2011<br>SM 4500-Cl D-2011<br>SM 4500-Cl E-2011<br>SM 4500-Cl F-2011<br>SM 4500-Cl G-2011 | Orion-77 |
| Sulfide<br>Sample Pretreatment | | SM 4500-$S^{2-}$ B-2021<br>SM 4500-$S^{2-}$ C-2021 | |
| Followed by: | | SM 4500-$S^{2-}$ D-2021<br>SM 4500-$S^{2-}$ F-2021<br>SM 4500-$S^{2-}$ G-2021 | |
| Sulfite | | SM 4500-$SO_3^{2-}$ B-2021 | |
| Surfactants (MBAS) | | SM 5540 C-2021 | |
| Temperature | | SM 2550 B-2021 | |
| Turbidity | 180.1 (1993) | SM 2130 B-2020 | |

## S. Clean Water Act Methodology

Inorganic – Nutrient: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter and method circled.

| Parameter | Methodology[1] | | |
|---|---|---|---|
| | EPA | Standard Methods | Other |
| Ammonia-Nitrogen<br>Manual distillation or gas diffusion required: | 350.1 (1993) | SM 4500-$NH_3$ B-2021 | |
| Followed by: | 350.1 (1993) | SM 4500-$NH_3$ C-2021<br>SM 4500-$NH_3$ D-2021<br>SM 4500-$NH_3$ E-2021<br>SM 4500-$NH_3$ F-2021<br>SM 4500-$NH_3$ G-2021<br>SM 4500-$NH_3$ H-2021 | |
| Kjeldahl-Nitrogen (TKN)<br>Manual digestion and distillation or gas diffusion required: | | SM 4500-Norg B-2021<br>SM 4500-Norg C-2021<br>SM 4500-$NH_3$ B-2021 | |
| Followed by: | 350.1 (1993) | SM 4500-$NH_3$ C-2021<br>SM 4500-$NH_3$ D-2021<br>SM 4500-$NH_3$ E-2021<br>SM 4500-$NH_3$ F-2021<br>SM 4500-$NH_3$ G-2021<br>SM 4500-$NH_3$ H-2021 | |
| Manual distillation not required: | 351.1 (1978)<br>351.2 (1993) | SM 4500-Norg D-2021 | |
| Nitrate-Nitrogen ($NO_3$) | 352.1 (1971)<br>300.0 (1993)<br>300.1 (1997) | SM 4110 B-2020<br>SM 4110 C-2020<br>SM 4500-$NO_3$ D-2019 | $NO_3$-$NO_2$ Minus $NO_2$ |
| Nitrate-Nitrite Nitrogen ($NO_3$ + $NO_2$) | 353.2 (1993)<br>300.0 (1993)<br>300.1 (1997) | SM 4500-$NO_3^-$ E-2019<br>SM 4500-$NO_3^-$ F-2019<br>SM 4500-$NO_3^-$ H-2019<br>SM 4500-$NO_3^-$ I-2019<br>SM 4500-$NO_3^-$ J-2018<br>SM 4110 B-2020<br>SM 4110 C-2020 | |
| Nitrite-Nitrogen ($NO_2$) | 353.2 (1993)<br>300.0 (1993)<br>300.1 (1997) | SM 4500-$NO_2^-$ B-2021<br>SM 4500-$NO_3^-$ E-2019<br>SM 4500-$NO_3^-$ F-2019<br>SM 4500-$NO_3^-$ I-2019<br>SM 4500-$NO_3^-$ J-2018<br>SM 4110 B-2020<br>SM 4110 C-2020 | |
| Orthophosphate | 365.1 (1993)<br>365.3 (1978)<br>300.0 (1993)<br>300.1 (1997) | SM 4500-P F-2021<br>SM 4500-P G-2021<br>SM 4500-P E-2021<br>SM 4110 B-2020<br>SM 4110 C-2020 | |
| Phosphorus | | Digestion:<br>SM 4500-P B(5)-2021 | |
| | 365.4 (1974)<br>365.1 (1993)<br>365.3 (1978)<br>200.7 (1994) | Followed by:<br>SM 4500-P E-2021<br>SM 4500-P F-2021<br>SM 4500-P G-2021<br>SM 4500-P H-2021 | |
| Total Organic Nitrogen | | | TKN-NH3(N) |

**S. Clean Water Act Methodology:**

Inorganic – Trace Metal: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter and method circled.

| Parameter | STGFAA | GF | ICP | ICP/MS | Other | |
|---|---|---|---|---|---|---|
| | EPA[1] | SM[1] | EPA[1] | EPA[1] | EPA[1] | SM[1] |
| Aluminum | 200.9 (1994) | SM 3113 B-2020 | 200.7 (1994) | 200.8 (1994) | | |
| Antimony | 200.9 (1994) | SM 3113 B-2020 | 200.7 (1994) | 200.8 (1994) | | |
| Arsenic | 200.9 (1994) | SM 3113 B-2020 | 200.7 (1994) | 200.8 (1994) | | |
| Barium | | SM 3113 B-2020 | 200.7 (1994) | 200.8 (1994) | | |
| Beryllium | 200.9 (1994) | SM 3113 B-2020 | 200.7 (1994) | 200.8 (1994) | | |
| Boron | | | 200.7 (1994) | 200.8 (1994) | | |
| Cadmium | 200.9 (1994) | SM 3113 B-2020 | 200.7 (1994) | 200.8 (1994) | | |
| Calcium | | | 200.7 (1994) | 200.8 (1994) | | |
| Chromium | 200.9 (1994) | SM 3113 B-2020 | 200.7 (1994) | 200.8 (1994) | | |
| Chromium VI (Dissolved) | | | | | 218.6 (1994) | SM 3500-Cr C-2011<br>SM 3500-Cr B-2011 |
| Cobalt | 200.9 (1994) | SM 3113 B-2020 | 200.7 (1994) | 200.8 (1994) | | |
| Copper | 200.9 (1994) | SM 3113 B-2020 | 200.7 (1994) | 200.8 (1994) | | |
| Gold | | | | 200.8 (1994) | 231.2 (1978) | |
| Iridium | | | | | 235.2 (1978) | |
| Iron | 200.9 (1994) | SM 3113 B-2020 | 200.7 (1994) | 200.8 (1994) | | |
| Lead | 200.9 (1994) | SM 3113 B-2020 | 200.7 (1994) | 200.8 (1994) | | |
| Magnesium | | | 200.7 (1994) | 200.8 (1994) | | |
| Manganese | 200.9 (1994) | SM 3113 B-2020 | 200.7 (1994) | 200.8 (1994) | | |
| Mercury | | | | | 1631E (2002)<br>245.1 (1994)<br>245.2 (1974)<br>245.7 (2005) | SM 3112 B-2020 |
| Sampling for Low-Level Metals | | | | | EPA 1669 (1996) | |
| Molybdenum | | SM 3113 B-2020 | 200.7 (1994) | 200.8 (1994) | | |
| Nickel | 200.9 (1994) | SM 3113 B-2020 | 200.7 (1994) | 200.8 (1994) | | |
| Osmium | | | | | 252.2 (1978) | |
| Palladium | | | | | 253.2 (1978) | |

**S. Clean Water Act Methodology:**

Inorganic – Trace Metal (continued): Circle the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's Certificate must reflect the appropriate certification for each parameter and method circled.

| Parameter | STGFAA | GF | ICP | ICP/MS | Other | |
|---|---|---|---|---|---|---|
| | EPA[1] | SM[1] | EPA[1] | EPA[1] | EPA[1] | SM[1] |
| Platinum | | | | | 255.2 (1978) | |
| Potassium | | | 200.7 (1994) | 200.8 (1994) | | |
| Rhodium | | | | | 265.2 (1978) | |
| Ruthenium | | | | | 267.2 (1978) | |
| Selenium | 200.9 (1994) | SM 3113 B-2020 | 200.7 (1994) | 200.8 (1994) | | |
| Silica, Dissolved | | | 200.7 (1994) | 200.8 (1994) | | |
| Silver | 200.9 (1994) | SM 3113 B-2020 | 200.7 (1994) | 200.8 (1994) | | |
| Sodium | | | 200.7 (1994) | 200.8 (1994) | | |
| Strontium | | | 200.7 (1994) | | | |
| Thallium | 200.9 (1994) | 3113 B-2020 | 200.7 (1994) | 200.8 (1994) | 279.2 (1978) | |
| Tin | 200.9 (1994) | 3113 B-2020 | 200.7 (1994) | 200.8 (1994) | | |
| Titanium | | | 200.7 (1994) | 200.8 (1994) | 283.2 (1978) | |
| Vanadium | | 3113 B-2020 | 200.7 (1994) | 200.8 (1994) | | |
| Zinc | | | 200.7 (1994) | 200.8 (1994) | 289.2 (1978) | |

Inorganic – Radiological: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certification must reflect the appropriate certification for each parameter and method circled.

| Parameter | EPA[1] Methodology | Standard Methods[1] |
|---|---|---|
| Alpha-Total, pCi per liter | 900.0 (1980) | SM 7110B-2000 |
| Alpha-Counting error, pCi per liter | Appendix B (1980) | SM 7110B-2000 |
| Beta-Total, pCi per liter | 900.0 (1980) | SM 7110B-2000 |
| Beta-Counting error, pCi per liter | Appendix B (1980) | SM 7110B-2000 |
| (a)Radium, Total, pCi per liter | 903.0 (1980) | SM 7500-Ra B-2001 |
| (b)Radium, pCi per liter | 903.1 (1980) | SM 7500-Ra C-2001 |

Inorganic – Residue: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter and method circled.

| Parameter | Methodology[1] | | |
|---|---|---|---|
| | EPA | Standard Methods | Other |
| Residue, Filterable (TDS) | | SM 2540 C-2020 | |
| Residue, Non-filterable (TSS) | | SM 2540 D-2020 | |
| Residue, Settleable (SS) | | SM 2540 F-2020 | |
| Residue, Total (TS) | | SM 2540 B-2020 | |
| Residue, Volatile (VS) [35] | 160.4 (1971) | SM 2540 E-2020 | |
| Total, Fixed, & Volatile Solids [44] | | SM 2540 G-2020 | |

**S. Clean Water Act Methodology:**

Organic Analyses: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter and method circled. **Include a list of requested analytes for each method.**

| Parameter | Methodology[1] | | |
|---|---|---|---|
| | GC | GC/MS | HPLC |
| **Pesticides & PCBs** | | | |
| Organochlorine Pesticides & PCBs | EPA 608.3[15] (2016)<br>EPA 608.3[15]-RVE (2016) | | |
| Organophosphate Pesticides | SM 6630 C-2007 | | |
| **Herbicides** | | | |
| Chlorinated Phenoxy Acid Herbicides | SM 6640 B-2006<br>EPA 615 (1992) | | |
| **Volatiles** | | | |
| Volatile Organics by Isotope Dilution –GC/MS | | EPA 1624B (1984)<br>EPA 1624C[30] (1990) | |
| VOCs by Isotope Dilution – GC/MS | | EPA 1666A (1998) | |
| VOCs by GC-FID | EPA 1671A (1998) | | |
| Purgeable Halocarbons –GC/Hall | EPA 601 (1994) | | |
| Purgeable Aromatics – GC/PID | EPA 602 (1984) | | |
| Acrolein & Acrylonitrile | EPA 603 (1984) | EPA 624.1 (2016) | |
| Purgeables – GC/MS | | EPA 624.1 (2016) | |
| **Semivolatiles** | | | |
| Phenols – GC/FID | EPA 604 (1984) | | |
| Benzidines –HPLC | | | EPA 605 (1984) |
| Phthalate Esters – GC/ECD | EPA 606 (1984) | | |
| Nitrosamines – GC/NPD | EPA 607 (1984) | | |
| Nitroaromatics & Isophorone – GC/FID/ECD | EPA 609 (1984) | | |
| Polynuclear Aromatic Hydrocarbons (PAHs) – GC/FID or HPLC | EPA 610 (1984) | | EPA 610 (1984) |
| Haloethers – GC/Hall | EPA 611 (1984) | | |
| Chlorinated Hydrocarbons – GC/ECD | EPA 612 (1984) | | |
| Base Neutrals & Acids –GC/MS<br>PAHs (SIM) | | EPA 625.1 (2016)<br>EPA 625.1-RVE (2016)<br>EPA 625.1 SIM (2016)<br>EPA 625.1-RVE SIM (2016) | |
| SVO by Isotope –GC/MS | | EPA 1625B (1984)<br>EPA 1625C[30] (1989)<br>EPA 1653A (1997) | |
| Formaldehyde, Isobutyraldehyde, and Furfural by HPLC | | | EPA 1667A (1998) |
| **Dioxins & Furans** | | | |
| Tetra-Octa-Chlorinated Dioxins & Furans HRGC/HRMS | | EPA 1613B (1994) | |
| 2,3,7,8-Tetrachloridibenzo-p-Dioxin | | EPA 613 (1984) | |

**T. Solid and Hazardous Waste Methodology:**

Inorganic – Demand: Circle the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter and method circled.

| Parameter | Methodology[1] | | |
|---|---|---|---|
| | EPA | Standard Methods | Other |
| Total Organic Carbon (TOC) | 9060A (2004) | | |

Inorganic – Hazardous Waste Characteristics: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter method circled.

| Parameter | Methodology[1] | | |
|---|---|---|---|
| | EPA | Standard Methods | Other |
| Corrosivity<br>Towards steel<br>PH (See Hydrogen-Ion Conc./Method 9040B Under Minerals) | 1110A (2004) | | |
| Dermal Corrosion | 1120 (1996) | | |
| EP Toxicity Test | 1310B (2004) | | |
| Ignitability<br>Pensky Martens<br>Setaflash | <br>1010B (2018)<br>1020C (2018) | | |
| Ignitability of Solids | 1030 (2014) | | |
| Paint Filter Liquids Test | 9095B (2004) | | |
| Liquid Release Test (LRT) Procedure | 9096 (1994) | | |
| Multiple Extraction Procedure | 1320 (1986) | | |
| SPLP – Synthetic Precipitation Leaching Proc. – Bottle Ext. | 1312[25] (1994) | | |
| SPLP – Synthetic Precipitation Leaching Proc. – Zero Head | 1312[26] (1994) | | |
| TCLP – Tox. Char. Leach. Proc. – Bottle Ext. | 1311[25] (1992) | | |
| TCLP – Tox. Char. Leach. Proc. – Zero Head | 1311[26] (1992) | | |
| Test Method for Oxidizing Solids | 1040 (2007) | | |
| Test Methods to Determine Substances Likely to Spontaneously Combust | 1050 (2007) | | |

Inorganic – Trace Metal: Circle only the EPA-approved methodology for the digestion techniques that the laboratory is seeking certification to perform. IDOCs and MDLs are required for each digestion procedure employed.

| Metals Digestion Techniques | Methodology[1] |
|---|---|
| | EPA |
| Acid Digestion of Waters for Total Recoverable or Dissolved Metals for Analysis by FLAA or ICP Spectroscopy | 3005A (1992) |
| Acid Digestion of Aqueous Samples and Extracts for Total Metals for Analysis by FLAA or ICP Spectroscopy | 3010A (1992) |
| Microwave Assisted Acid Digestion of Aqueous Samples and Extracts | 3015A (2007) |
| Acid Digestion of Aqueous Samples and Extracts for Total Metals for Analysis by GFAA Spectroscopy | 3020A (1992) |
| Acid Digestion of Sediments, Sludges, and Soils | 3050B (1996) |
| Microwave Assisted Acid Digestion of Sediments, Sludges, Soils, and Oils | 3051A (2007) |
| Hexavalent Chromium Digestion | 3060A (1996) |
| Mercury Species Fractionation and Quantification by Microwave-Assisted Extraction, Selective solvent Extraction and/or solid Phase Extraction (2014) | 3200 (2014) |

**T. Solid and Hazardous Waste Methodology:**

Inorganic – Trace Metal: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter and method circled.

| Parameter | FLAA | GFAA | Hydride | ICP | ICP/MS | Colorimetric | Cold Vapor | Other |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 7000B (2007) | | | 6010D (2018) | 6020B (2014) | | | |
| Antimony | 7000B (2007) | 7010 (2007) | 7062 (1994) | 6010D (2018) | 6020B (2014) | | | 6800 (2014) |
| Arsenic | | 7010 (2007) | 7061A (1992) 7062 (1994) | 6010D (2018) | 6020B (2014) | | | |
| Barium | 7000B (2007) | 7010 (2007) | | 6010D (2018) | 6020B (2014) | | | 6800 (2014) |
| Beryllium | 7000B (2007) | 7010 (2007) | | 6010D (2018) | 6020B[7] (2014) | | | |
| Boron | | | | 6010D (2018) | | | | 6800 (2014) |
| Cadmium | 7000B (2007) | 7010 (2007) | | 6010D (2018) | 6020B (2014) | | | 6800 (2014) |
| Calcium | 7000B (2007) | | | 6010D (2018) | 6020B (2014) | | | 6800 (2014) |
| Chromium VI | | | | | | 7196A (1992) | | 7195 (1986) 7197 (1986) 7198 (1986) 7199 (1996) |
| Chromium | 7000B (2007) | 7010 (2007) | | 6010D (2018) | 6020B (2014) | | | 6800 (2014) |
| Cobalt | 7000B (2007) | 7010 (2007) | | 6010D (2018) | 6020B (2014) | | | |
| Copper | 7000B (2007) | 7010 (2007) | | 6010D (2018) | 6020B (2014) | | | 6800 (2014) |
| Iron | 7000B (2007) | 7010 (2007) | | 6010D (2018) | 6020B (2014) | | | 6800 (2014) |
| Lead | 7000B (2007) | 7010 (2007) | | 6010D (2018) | 6020B (2014) | | | 6800 (2014) |
| Lithium | 7000B (2007) | | | 6010D (2018) | | | | |
| Magnesium | 7000B (2007) | | | 6010D (2018) | 6020B (2014) | | | 6800 (2014) |
| Manganese | 7000B (2007) | 7010 (2007) | | 6010D (2018) | 6020B (2014) | | | |
| Mercury | | | | 6010D (2018) | 6020B (2014) | | 7470A (1994) 7471B (2007) | 7473 (2007) 7474 (2007) 6800 (2014) |
| Molybdenum | 7000B (2007) | 7010 (2007) | | 6010D (2018) | 6020B[7] (2014) | | | 6800 (2014) |
| Nickel | 7000B (2007) | 7010 (2007) | | 6010D (2018) | 6020B (2014) | | | 6800 (2014) |
| Osmium | 7000B (2007) | | | | | | | |
| Phosphorus | | | | 6010D (2018) | | | | |
| Potassium | 7000B (2007) | | | 6010D (2018) | 6020B (2014) | | | 6800 (2014) |

## T. Solid and Hazardous Waste Methodology

Inorganic – Trace Metal continued: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter and method circled.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Selenium | | 7010 (2007) | 7741A (1994) 7742 (1994) | 6010D (2018) | 6020B (2014) | | | 6800 (2014) |
| Silica | | | | 6010D (2018) | 6020B[7] (2014) | | | |
| Silver | 7000B (2007) | 7010 (2007) | | 6010D (2018) | 6020B (2014) | | | 6800 (2014) |
| Sodium | 7000B (2007) | | | 6010D (2018) | 6020B (2014) | | | |
| Strontium | 7000B (2007) | | | 6010D (2018) | | | | 6800 (2014) |
| Thallium | 7000B (2007) | 7010 (2007) | | 6010D (2018) | 6020B (2014) | | | 6800 (2014) |
| Tin | 7000B (2007) | | | 6010D (2018) | 6020B[7] (2014) | | | |
| Titanium | | | | 6010D (2018) | 6020B[7] (2014) | | | |
| Vanadium | 7000B (2007) | 7010 (2007) | | 6010D (2018) | 6020B (2014) | | | 6800 (2014) |
| Zinc | 7000B (2007) | 7010 (2007) | | 6010D (2018) | 6020B (2014) | | | 6800 (2014) |

Inorganic – Trace Metal: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter and method circled.

| **Parameter** | **Methodology[1]** | | |
|---|---|---|---|
| | EPA | Standard Methods | Other |
| Field Portable X-Ray Fluorescence Spectrometry for the Determination of Elemental Concentrations in Soil and Sediment | 6200 (2007) | | |

Inorganic – Mineral: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter and method circled.

| Parameter | Methodology[1] | | |
|---|---|---|---|
| | EPA | Standard Methods | Other |
| Chloride | 9212 (1996)<br>9250 (1986)<br>9251 (1986)<br>9253 (1994)<br>9056A (2007)<br>6500 (2007) | | |
| Fluoride | 9214 (1996)<br>9056A (2007)<br>6500 (2007) | | |
| Hydrogen-Ion Concentration (pH) (Corrosivity)<br>Hydrogen-Ion Concentration (solid) | 9040C (2004)<br>9045D (2004) | | |
| Specific Conductance | 9050A (1996) | | |
| Sulfate | 9035 (1986)<br>9036 (1986)<br>9038 (1986)<br>9056A (2007)<br>6500 (2007) | | |

## T. Solid and Hazardous Waste Methodology

Inorganic – Miscellaneous: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter and method circled.

| Parameter | Methodology[1] | | |
|---|---|---|---|
| | EPA | Standard Methods | Other |
| Bomb Preparation Method | 5050 (1994) | | |
| Bromide<br>Ion Chromatography<br>Electrode<br>Capillary Ion Electrophoresis | <br>9056A (2007)<br>9211 (1996)<br>6500 (2007 | | |
| Compatibility Test for Wastes & Membrane Liners | 9090A (1992) | | |
| Cyanide Distillation for Total and Amenable | 9010C (2004) | | |
| Cyanide<br>Spectrophotometric, Automated<br>Titrimetric & Manual Spectrophotometric[27]<br>Electrode[27] | <br>9012B (2004)<br>9014 (2014)<br>9213 (1996) | | |
| Cyanide Amenable to Chlorination<br>Spectrophotometric, Automated<br>Titrimetric & Manual Spectrophotometric[27]<br>Electrode[27] | <br>9012B (2004)<br>9014 (2014)<br>9213 (1996) | | |
| Cyanide Extraction for Solids and Oils | 9013A (2014) | | |
| Metal Cyanide Complexes by Anion Exchange Chromatography and UV Detection | 9015 (2014) | | |
| Extraction Proc. For Oily Wastes | 1330A (1992) | | |
| Extraction Organic Halides in Solids (EOX) | 9023 (1996) | | |
| Intrinsic Permeability | 9100 (1986) | | |
| Oil and Grease | 9070A (1999)<br>9071B (1998) | | |
| Phenolics, Total Recoverable<br>Manual, Spectrophotometric<br>Colorimetric, Automated<br>Spectrophotometric, MBTH | <br>9065 (1986)<br>9066 (1986)<br>9067 (1986) | | |
| Purgeable Organic Halides (POX) | 9021 (1992) | | |
| Saturated Hydraulic Conductance | 9100 (1986) | | |
| Saturated Leachate Conductance | 9100 (1986) | | |
| Sulfides, Extractable | 9031 (1992) | | |
| Sulfides, Acid Soluble & Insoluble (Distillation) | 9030B (1996) | | |
| Sulfides, Acid Soluble & Insoluble<br>Titrimetric[27]<br>Electrode[27] | <br>9034 (1996)<br>9215 (1996) | | |
| Total Chlorine in New and Used Petroleum Products by X-Ray Fluorescence Spectrometry (XRF) | 9075 (1994) | | |
| Total Chlorine in New and Used Petroleum Products by OCM | 9076 (1994) | | |
| Total Chlorine in New and Used Petroleum Products (Field Test Kit Methods) | 9077 (1994) | | |
| Total Organic Halides (TOX) | 9020B (1994) | | |
| Determination of Water in Waste Materials by Karl Fischer Titration | 9000 (2007) | | |
| Determination of Water in Waste Materials by Quantitative Calcium Hydride Reaction | 9001 (2007) | | |

## T. Solid and Hazardous Waste Methodology

Inorganic – Nutrient: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter and method circled.

| Parameter | Methodology[1] | | |
|---|---|---|---|
| | EPA | Standard Methods | Other |
| Nitrate-Nitrogen | 9210A (2007)<br>9056A (2007)<br>6500 (2007) | | |
| Nitrite-Nitrogen | 9056A (2007)<br>9216 (2007)<br>6500 (2007) | | |
| Orthophosphate | 9056A (2007)<br>6500 (2007) | | |
| Phosphorus | 6010D (2018) | | |

Microbiology: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter method circled.

| Parameter | Methodology[1] | | |
|---|---|---|---|
| | EPA | Standard Methods | Other |
| Fecal Coliform (MF) | | SM 9222 D-2015 | |
| Fecal Coliform (MPN) | | SM 9221 C,E-2014 | |
| Fecal Streptococci (MF) | | SM 9230 C-2013 | |
| Fecal Streptococci (MPN) | | SM 9230 B-2013 | |
| Total Coliform (MPN) | 9131 (1986) | | |
| Total Coliform (MF) | 9132 (1986) | | |

**T. Solid and Hazardous Waste Methodology:**

Organic Analyses: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each method and organic contaminant circled. **Include a list of requested analytes for each analytical and sample preparation method.**

| Parameter | EPA[1] Methodology | |
|---|---|---|
| **Pesticides and PCBs** | Analytical Method | Extraction/Preparation Method[28] |
| Organochlorine Pesticides by GC: Capillary Column | 8081B (2007)<br><br>**Specify by extraction method if RVE[28] is being requested.** | 3510C (1996)<br>3520C (1996)<br>3535A (2007)<br>3540C (1996)<br>3541 (1994)<br>3545A (2007)<br>3546 (2007)<br>3550C (2007)<br>3562 (2007)<br>3580A (1992) |
| Compound-Independent Elemental Quantitation of Pesticides by GC/AED (Atomic Emission Detection) | 8085 (2007) | 3510C (1996)<br>3520C (1996)<br>3535A (2007)<br>3540C (1996)<br>3541 (1994)<br>3545A (2007)<br>3546 (2007)<br>3550C (2007)<br>3580A (1992) |
| Organophosphorus Pesticides by GC: Capillary Column | 8141B (2007)<br><br>**Specify by extraction method if RVE[28] is being requested.** | 3510C (1996)<br>3520C (1996)<br>3535A (2007)<br>3540C (1996)<br>3541 (1994)<br>3545A (2007)<br>3546 (2007)<br>3550C (2007)<br>3580A (1992) |
| Polychlorinated Biphenyls by GC[15] | 8082A (2007)<br><br>**Specify by extraction method if RVE[28] is being requested.** | 3510C (1996)<br>3520C (1996)<br>3535A (2007)<br>3540C (1996)<br>3541 (1994)<br>3545A (2007)<br>3546 (2007)<br>3550B (1996)<br>3550C (2007)<br>3562 (2007)<br>3580A (1992) |
| **Herbicides** | | |
| Chlorophenoxy Acid Herbicides by GC | 8151A (1996) | |

**T. Solid and Hazardous Waste Methodology:**

Organic Analyses continued: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each method and organic contaminant circled. **Include a list of requested analytes for each analytical and sample preparation method.**

| Parameter | EPA[1] Methodology | |
|---|---|---|
| **Volatiles** | | |
| Nonhalogenated Volatile Organics | 8015C (2007) | 5021A (2014)<br>5030B (1996)<br>5031 (1996)<br>5032 (1996)<br>5035 (1996)<br>3585 (1996) |
| TPH – Low Boiling Point (GRO) | 8015C (GRO) (2007) | 5030B (1996)<br>5035 (1996)<br>3585 (1996) |
| Volatiles by GC/Hall/PID | 8021B (2014) | 5021A (2014)<br>5030B (1996)<br>5032 (1996)<br>5035 (1996)<br>3585 (1996) |
| | | |
| Volatile Organics by GC/MS | 8260D (2018) | 5021A (2014)<br>5030B (1996)<br>5031 (1996)<br>5032 (1996)<br>5035 (1996)<br>3585 (1996) |
| Volatile Organics – Oxygenates GC/MS | 8260D Oxy (2018) | 5030B (1996) |
| Volatile Organics – (SIM) 1,4-Dioxane | 8260D SIM (2018) | 5030B (1996) |
| Volatile Organics by Vacuum Distilllation in Combination with GC/MS (VD/GC/MS) | 8261 (2007) | |
| **Semivolatiles** | Analytical Method | Extraction/Preparation Method[28] |
| Acetonitrile by GC-NPD | 8033 (1996) | |
| Acrylamide, Acrylonitrile, & Acrolein by HPLC | 8316 (1994) | |
| Acrylamide by GC | 8032A (1996) | |
| Acrylonitrile by GC | 8031 (1994) | |
| Base Neutrals & Acids by GC/MS<br><br>**(Refer to Polynuclear Aromatic Hydrocarbons for EPA 8270D SIM)** | 8270E (2018)<br><br>**Specify by extraction method if RVE[28] is being requested.** | 3510C (1996)<br>3520C (1996)<br>3535A (2007)<br>3540C (1996)<br>3541 (1994)<br>3545A (2007)<br>3546 (2007)<br>3550C (2007)<br>3561 (1996)<br>3580A (1992) |

**T. Solid and Hazardous Waste Methodology:**

Organic Analyses continued: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each method and organic contaminant circled. **Include a list of requested analytes for each analytical and sample preparation method.**

| Parameter | EPA[1] Methodology | |
|---|---|---|
| **Semivolatiles** | Analytical Method | Extraction/Preparation Method[28] |
| Base Neutrals & Acids by GC/FT-IR | 8410 (2014) | 3510C (1996)<br>3520C (1996)<br>3535A (2007)<br>3540C (1996)<br>3541 (1994)<br>3545A (2007)<br>3546 (2007)<br>3550C (2007)<br>3560 (1996)<br>3561 (1996)<br>3580A (1992) |
| Carbonyl Compounds by HPLC | 8315A (1996) | |
| EDB & DBCP by Microextraction/GC | 8011 (1992) | |
| Extractable Nonvolatiles by HPLC/TS/MS | 8321B (2007) | |
| Extractable Nonvolatiles by HPLC/PB/MS | 8325 (1996) | BASED ON ANALYTE |
| Haloethers by GC | 8111 (2014) | BASED ON ANALYTE |
| N-Methylcarbamates | 8318A (2007) | 3510C (1996)<br>3520C (1996)<br>3540C (1996)<br>3541 (1994)<br>3550C (2007) |
| Nitroaromatics & Cyclic Ketones by GC | 8091 (1996) | |
| Nitroglycerine by HPLC | 8332 (1996) | |
| Nitroaromatics, Nitramines by HPLC | 8330A (2007) | |

**T. Solid and Hazardous Waste Methodology:**

Organic Analyses continued: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each method and organic contaminant circled. **Include a list of requested analytes for each analytical and sample preparation method.**

| Parameter | EPA[1] Methodology | |
|---|---|---|
| **Semivolatiles** | Analytical Method | Extraction/Preparation Method[28] |
| Nitrosamines by GC | 8070A (1996) | 3510C (1996)<br>3520C (1996)<br>3540C (1996)<br>3541 (1994)<br>3545A (2007)<br>3550C (2007) |
| Explosives by GC | 8095 (2007) | 3535A (2007)<br>8330A-EXT (Soil extraction) |
| PAHs & PCBs by TE/GC/MS | 8275A (1996) | |
| Pentachlorophenol (PCP) by UV-Induced Colorimetry | 8540 (2007) | |
| Phenols by GC | 8041A (2007) | 3510C (1996)<br>3520C (1996)<br>3535A (2007)<br>3540C (1996)<br>3541 (1994)<br>3545A (2007)<br>3546 (2007)<br>3550C (2007)<br>3580A (1992) |
| Phthalate Esters by GC: Capillary Column | 8061A (1996) | 3510C (1996)<br>3520C (1996)<br>3535A (2007)<br>3540C (1996)<br>3541 (1994)<br>3545A (2007)<br>3546 (2007)<br>3550C (2007)<br>3580A (1992) |
| Polynuclear Aromatic Hydrocarbons by GC/FID | 8100 (1986) | 3510C (1996)<br>3520C (1996)<br>3535A (2007)<br>3540C (1996)<br>3541 (1994)<br>3545A (2007)<br>3546 (2007)<br>3550C (2007)<br>3561 (1996)<br>3580A (1992) |
| Polynuclear Aromatic Hydrocarbons by HPLC | 8310 (1986) | 3510C (1996)<br>3511 (2014)<br>3520C (1996)<br>3535A (2007)<br>3540C (1996)<br>3541 (1994)<br>3545A (2007)<br>3546 (2007)<br>3550C (2007)<br>3561 (1996)<br>3580A (1992) |

**T. Solid and Hazardous Waste Methodology:**

Organic Analyses continued: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each method and organic contaminant circled. **Include a list of requested analytes for each analytical and sample preparation method.**

| Parameter | EPA[1] Methodology | |
|---|---|---|
| **Semivolatiles** | Analytical Method | Extraction/Preparation Method[28] |
| Polynuclear Aromatic Hydrocarbons (SIM) | 8270E (SIM) (2018)<br><br>**Specify by extraction method if RVE[28] is being requested.** | 3510C (1996)<br>3511 (2014)<br>3520C (1996)<br>3535A (2007)<br>3540C (1996)<br>3541 (1994)<br>3545A (2007)<br>3546 (2007)<br>3550C (2007)<br>3561 (1996)<br>3580A (1992) |
| Tetrazine Reverse Phase by HPLC | 8331 (1994) | |
| TPH – High Boiling Point (DRO) | 8015C (DRO) (2007) | 3510C (1996)<br>3511 (2014)<br>3520C (1996)<br>3535A (2007)<br>3540C (1996)<br>3541 (1994)<br>3545A (2007)<br>3546 (2007)<br>3550C (2007)<br>3560 (1996)<br>3561 (1996)<br>3580A (1992) |
| **Dioxin & Dibenzofurans** | | |
| PCDDs/PCDFs by HRGC/LRMS | 8280B (2007) | |
| PCDDs/PCDFs by HRGC/HRMS | 8290A (2007) | |

| | | |
|---|---|---|
| **Infrared Methods** | | |
| Fourier Transform Infrared by GC/FT-IR | 8410 (2014) | |
| Bis(2-chloroethyl) Ether & Hydrolysis by GC/FT-IR | 8430 (2014) | |
| Total, Recoverable Petroleum Hydrocarbons | 8440 (1996) | |
| **Immunoassay Methods** | | |
| Immunoassay | 4000 (1996) | |
| Pentachlorophenol by Immunoassay | 4010A (1996) | |
| 2,4-Dichlorophenoxyacetic Acid by Immunoassay | 4015 (1996) | |
| Polychlorinated Biphenyls by Immunoassay | 4020 (1996) | |
| Polychlorinated Dibenzodioxins and Dibenzofurans (PCDD/Fs) by Immunoassay (2014) | 4025 (2014) | |

**T. Solid and Hazardous Waste Methodology:**

Organic Analyses continued: Circle only the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each method and organic contaminant circled.

| Parameter | EPA[1] Methodology | Extraction/Preparation Method |
|---|---|---|
| **Immunoassay Methods** | | |
| Soil Screening for TPH by Immunoassay | 4030 (1996) | |
| Soil Screening for PAHs by Immunoassay | 4035 (1996) | |
| Soil Screening for Toxaphene by Immunoassay | 4040 (1996) | |
| Soil Screening for Chlordane by Immunoassay | 4041 (1996) | |
| Soil Screening for DDT by Immunoassay | 4042 (1996) | |
| TNT Explosives in Soil by Immunoassay | 4050 (1996) | |
| Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX) | 4051 (1996) | |
| Polychlorinated Dibenzo-p-Dioxins and Furans (PCDD/Fs) by Aryl Hydrocarbon Receptor PCR Assay (2014) | 4430 (2014) | |
| Toxic Equivalent (TEQS) Determination for Dioxin-Like Chemical Activity with CALUX® Bioassay (2014) | 4435 (2014) | |
| Triazine Herbicides as Atrazine in Water | 4670 (1996) | |
| | | |
| **Miscellaneous Screening Methods** | | |
| Headspace | 5021A (2014) | |
| Hexadecane Ext. & Screening of Purgeables | 3820 (1986) | |
| Trinitrotoluene (TNT) in Soil (Color.) | 8515 (1996) | |
| Polychlorinated Biphenyls in Soil | 9078 (1996) | |
| Polychlorinated Biphenyls in Trans. Oil | 9079 (1996) | |
| Volatile Organics in Soil | 3815 (2007) | |
| Extracts of Environmental Samples for Planar Organic Compounds (PAHs, PCBs, PCDDs/PCDFs) by a Reporter Gene on a Human Cell Line | 4425 (2007) | |
| Colorimetric Screening for RDX and HMX in Soil | 8510 (2007) | |
| Total Volatile Organic Halides in Water | 8535 (2007) | |

**U. Shellfish Waters and Meats Methodology:**

Microbiology: Circle on the EPA-approved methodology that the laboratory is seeking certification to perform. Out-of-state laboratories: The State Certifying Authority's certificate must reflect the appropriate certification for each parameter and method circled.

| Parameter | Methodology |
|---|---|
| Fecal Coliform(MPN)- Waters | A-1 Medium AOAC-Modified A-1 Test for Seawaters[19] |
| Fecal Coliform(MPN) - Meats | APHA 4th Ed.1970-Recommended APHA Procedures for Seawater & Shellfish[21] |
| Total Coliform(MPN) - Meats | APHA 4th Ed.1970-Recommended APHA Procedures for Seawater & Shellfish[21] |

## V. Statement of Validation

I have read South Carolina State Regulation 61-81, titled State Environmental Laboratory Certification. In accordance with that Regulation, as the designated Laboratory Director, I submit this completed Application to the State Environmental Laboratory Certification Program. I attest that the information on pages 1-28 is true, accurate and complete to the best of my knowledge. I agree to notify the State Environmental Laboratory Certification Program within 15 days of changes in laboratory name, ownership, laboratory director, location, personnel, facilities, equipment, methodology, and/or record keeping practices, or any other factors which might impair the ability of the laboratory to perform in accordance with the terms of certification documented in Regulation 61-81.

With the attached application(s), I hereby apply for certification in accordance with the terms listed in South Carolina Environmental Laboratory Certification Regulation 61-81.

_____
Name of Laboratory Director (type or print)

_____ _____
Signature of Laboratory Director Date

**W. Designation of Laboratory Director**

**THIS IS A SAMPLE FORM.**

YOUR LABORATORY'S LETTERHEAD

Director, Office of Environmental Laboratory Certification
S.C. Department of Environmental Services
2600 Bull St.
Columbia, South Carolina 29201

Re: Laboratory ID#_____ *(If Laboratory is currently certified)*

Dear Director:

In accordance with South Carolina State Environmental Laboratory Certification Regulation 61-81, Section D(12), as proprietor of _____, I designate _____ as the Laboratory Director. He/she has the responsibility of supervising the operations of the laboratory and ensuring the quality and accuracy of the data reported. If there is a change in the Laboratory Director, I agree to notify the Office of Environmental Laboratory Certification within 15 days of this change.

_____
(Proprietor's Signature and Date)

_____
(Type or Print Name)

_____
(Type or Print Title)

# Application Footnotes

1 **Safe Drinking Water Act:**

For the approved methodology for Safe Drinking Water Act compliance, refer to 40 CFR Parts 141 and 143. When using a Standard Methods reference include year approved by Standard Methods Committee The reference method format for the 21st and 22nd Editions of Standard Methods will follow the year approved format. For example, Standard Methods 9223B in the 22nd Edition of Standard Methods will be referenced as SM 9223B-2004.

**Clean Water Act:**

For the approved methodology for Clean Water Act compliance, refer to 40 CFR Part 136, "Guidelines Establishing Test Procedures for the Analysis of Pollutants under the Clean Water Act."

Also refer to 40 CFR Part 403, "General Pretreatment Regulations for Existing and New Sources for Pollution," 40 CFR Part 423, "Steam Electric Power Generating Point Source Category", 40 CFR Part 430, "The Pulp, Paper, and Paperboard Point Source Category," 40 CFR Part 439, "Pharmaceutical Manufacturing Point Source category," 40 CFR Part 455, "Pesticide Chemicals," 40 CFR Part 465, "Coil Coating Point Source Category," and 40 CFR Part 503, "Standards for the Use or Disposal of Sewage Sludge."

**Solid and Hazardous Waste Testing:**

For Solid and Hazardous Waste testing, the EPA approved method reference is SW-846, Third Edition of "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", amended by Updates I, II, II, IIA, IIB, III, IIIA, IIIB IVA, IVB, and V.

Also refer to 40 CFR Parts 260, 261,264, 265, 268, and 270, "Hazardous Waste Management System; Testing and Monitoring Activities".

2 MI agar may also be used. Preparation and use of MI agar is set forth in the article "New Medium for the Simultaneous Detection of Total Coliform and *Escherichia coli* in Water" by Brenner, K.P.,et. al., 1993, Appl. Environ. Microbiol. 59:3534-3544.

3 Colilert is also known as the ONPG-MUG test.

4 A description of the Colisure Test Feb. 28, 1994 can be obtained from IDEXX Laboratories, Inc. One IDEXX Drive, 1 Westbrook, Maine 04092. Phone: 800-321-0207. The website is www.idexx.com.

5 Luminescence Dissolved Oxygen (LDO) Methods.

6 A description of the m-ColiBlue24® Test, Aug.17, 1999 is available from the Hach Company.

7 This metal is not listed in EPA 6020B, but is approved under 40CFR Part 136 by EPA 200.8, which is considered an equivalent method to EPA 6020B.

8 This method is not approved for compliance samples for the disinfection by-product rule.

9 National Council for the Paper Industry for Air and Stream Improvement, Technical Bulletin 803, May 2000.

10 Reserved

11 Under the disinfection by-product rule, the amperometric titration or spectrophotometry may be used for routine daily monitoring of chlorite at the entrance to the distribution system, as prescribed in §141.132(b)(2)(i)(A). Ion chromatography must be used for routine monthly monitoring of chlorite in the distribution system as prescribed in §141.132(b)(2)(i)(B) and (b)(2)(ii).

12-13 Reserved

14 PCBs are quantitatively identified as Arochlors and measured for compliance purposes as decachlorobiphenyl.

15 Method detection limit studies must be submitted for all Arochlors (PCBs).

16 Users of Method 505 may have more difficulty in achieving the required detection limits than users of Methods 508.1, 525.2 or 508.

17 Enterolert, IDEXX Laboratories, Inc.

18 Sample must be filtered within 15 minutes of collection and analyzed within 48 hours.

19 Association of Official Analytical Chemists (AOAC). 2000. *Official Methods of Analyses of the Association of Official Analytical Chemists.*17th Edition, Chapter 17.305, page 22. AOAC, Arlington, VA.

# Application Footnotes (Cont.)

20 For the enumeration of fecal coliforms in wastewater effluent. The incubation temperature is 44.5±0.2°C and a water bath incubator is used.

21 American Public Health Association (APHA). 1970. *Recommended Procedures for the Examination of Sea Water and Shellfish*, 4thEdition. APHA, Washington, D.C.

22 "TECTA™ EC/TC Medium and TECTA™ Instrument: A Presence/Absence Method for the Simultaneous Detection of Total Coliforms and Escherichia coli (*E. coli*) in Drinking Water," version 1.0, May 2014. Available from IDEXX, Inc.

23 Reserved

24 Recommended for enumeration of target organism in sewage sludge.

25 Must be accompanied with the applicable metals and organic method certification.

26 Must be accompanied with the applicable volatiles certification.

27 Must be accompanied with the distillation procedure.

28 The extraction or sample preparation method needed will be based on the matrix and analytes of interest. Document reduced volume extraction by writing in "RVE" beside the applicable extraction technique.

29 Must accompany the completed application form.

30 EPA Method 1624C and 1625C are for use with pharmaceutical effluents.

31 If total cyanide is greater than 0.2mg/L, then free cyanide must be determined using the amenable cyanide method or ion selective electrode method.

32 Method OIA–1677–09, Available Cyanide by Ligand Exchange and Flow Injection Analysis (FIA). 2010. OI Analytical.

33 Distillation and analysis by an approved total cyanide method is required following the chlorination and dechlorination treatments.

34 QuikChem Method 10–204–00–1–X, Digestion and Distillation of Total Cyanide in Drinking and Wastewaters using MICRO DIST and Determination of Cyanide by Flow Injection Analysis. Revision 2.2, March 2005. Lachat Instruments.

35 Must be certified for applicable residue method (TSS, TDS, TS).

36 A description of the SimPlate method, "IDEXX SimPlate TM HPC Test Method for Heterotrophs in Water", November 2000 can be obtained from IDEXX Laboratories, Inc., One IDEXX Drive, Westbrook, Maine 04092. Phone: 800-321-0207. The website is www.idexx.com.

37 The time from sample collection to initiation of analysis may not exceed 8 hours. Systems must hold samples below 10°C during transit.

38-39 Reserved

40 Modified Colitag®, ATP D05-0035—"Modified Colitag™ Test Method for the Simultaneous Detection of *E. coli* and other Total Coliforms in Water," August 28, 2009.

41 *In Vitro* Determination of Chlorophyll *a* and Pheophytin *a* in Marine and Freshwater Algae by Fluorescence," Revision 1.2, September 1997. Nation Exposure Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Cincinnati, Ohio 45268.

42 Sample preparation for fecal coliform analysis in biosolids samples is addressed in the EPA publication "Environmental Regulations and Technology Control of Pathogens and Vector Attraction in Sewage Sludge" EPA document EPA/625/R-92/013. The current version of this document is July 2003. Appendix F addresses the proper techniques and dilutions for preparing biosolids samples for analysis of fecal coliforms using membrane filtration or the Most Probable Number analytical techniques. This method not required if using EPA Methods 1680 or 1681.

43 The Gamma Emitters category includes Barium 133, Cesium 134, Cesium 137, Cobalt 60, and Zinc 65.

44 This method is not approved under 40CFR Part 136. It is approved only for Part 503 biosolids.

45 Ion chromatography & post column reaction or IC/ICP-MS must be used for monitoring of bromate for purposes of demonstrating eligibility of reduced monitoring, as prescribed in §141.132(b)(3)(ii).

# Application Footnotes (Cont.)

46 Samples must be preserved at the time of sampling with 50mg ethylenediamine (EDA)/L of sample and must be analyzed within 28 days.

47 Inorganic carbon must be removed from the samples prior to analysis. TOC samples must not be filtered prior to analysis. TOC samples must be acidified at the time of sample collection to achieve pH less than or equal to 2 with minimal addition of the acid specified in the method or by the instrument manufacturer. Acidified TOC samples must be analyzed within 28 days.

48 DOC samples must be filtered through 0.45-µm pore-diameter filter as soon as practical after sampling, not to exceed 48 hours. After filtration, DOC samples must be acidified to a pH of less than or equal to 2 with minimal addition of acid specified in the method or by the instrument manufacturer. Acidified DOC samples must be analyzed within 28 days of sample collection. Inorganic carbon must be removed from the samples prior to analysis. Water passed through the filter prior to filtration of the sample must serve as the filtered blank. This filtered blank must be analyzed using procedures identical to those used for analysis of the samples and must meet the following criteria: DOC<0.5mg/L.

49 Prior to analysis, $UV_{254}$ samples must be filtered through a 0.45 µm pore-diameter filter. The pH of the $UV_{254}$ samples may not be adjusted. Samples must be analyzed as soon as practical after sampling, not to exceed 48 hours.

50 Hach Method 10290 (2019) for Peracetic Acid and Hydrogen Peroxide are not approved under 40 CFR 136, but are approved for SC NPDES permit holders if listed on the permit.