



***State of Rhode Island***  
***DEPARTMENT OF HEALTH***

***Certifies***

***LAI00179***

***ESS LABORATORY***  
***185 FRANCES AVENUE***  
***CRANSTON RI 02910***

***Laboratory Director: LAUREL STODDARD***

for the analysis of:      Potable Water Organic Chemistry - Potable Water Inorganic Chemistry - Non-potable Water Organic Chemistry - Non-potable Water Inorganic Chemistry -

**This certification, pursuant to Rhode Island General Laws 23-16.2 supersedes, all previous Rhode Island certificates issued to this laboratory. Certification is no guarantee of the validity of the laboratory results.**

**This certificate is valid only when accompanied by the latest dated Appendix which lists the analytes and methods for which certification has been granted. Contact the Laboratory Certification Officer to verify the current certification status of this laboratory.**

***Expires: 12/30/2024***

**THIS CERTIFICATE IS TO BE CONSPICUOUSLY DISPLAYED AT THE LABORATORY IN A LOCATION VISIBLE TO THE PUBLIC**



**State of Rhode Island and Providence Plantations  
DEPARTMENT OF HEALTH**

**ESS Laboratory  
185 Frances Avenue  
Cranston, RI 02910  
401-461-7181**

**APPENDIX TO ANALYTICAL LABORATORY CERTIFICATE No. LAI00179**

**Expiration date: December 31, 2024**

**Date Issued: January 24, 2024**

**Potable Water - Organic Chemistry**

Benzene	EPA Method 524.2
1,2-Dichlorobenzene	EPA Method 524.2
1,4-Dichlorobenzene	EPA Method 524.2
1,1-Dichloroethene	EPA Method 524.2
1,2-Dichloroethane	EPA Method 524.2
1,2-Dichloroethene (cis)	EPA Method 524.2
1,2-Dichloroethene (trans)	EPA Method 524.2
1,2-Dichloropropane	EPA Method 524.2
Carbon Tetrachloride	EPA Method 524.2
Chlorobenzene	EPA Method 524.2
Ethylbenzene	EPA Method 524.2
Methylene Chloride	EPA Method 524.2
Styrene	EPA Method 524.2
Tetrachloroethene	EPA Method 524.2
Toluene	EPA Method 524.2
1,2,4-Trichlorobenzene	EPA Method 524.2
1,1,1-Trichloroethane	EPA Method 524.2
1,1,2-Trichloroethane	EPA Method 524.2
Trichloroethene	EPA Method 524.2
Vinyl Chloride	EPA Method 524.2
Xylenes (total)	EPA Method 524.2
m+p Xylene	EPA Method 524.2
o-Xylene	EPA Method 524.2
T-amylmethylether(TAME)	EPA Method 524.2
tert-Butyl alcohol	EPA Method 524.2
Ethyl-t-butylether (ETBE)	EPA Method 524.2
MTBE	EPA Method 524.2
Bromobenzene	EPA Method 524.2



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Bromochloromethane	EPA Method 524.2
Bromomethane	EPA Method 524.2
Chloroethane	EPA Method 524.2
Chloromethane	EPA Method 524.2
2-Chlorotoluene	EPA Method 524.2
4-Chlorotoluene	EPA Method 524.2
Dibromomethane	EPA Method 524.2
1,3-Dichlorobenzene	EPA Method 524.2
Dichlorodifluoromethane	EPA Method 524.2
1,1-Dichloroethane	EPA Method 524.2
1,3-Dichloropropane	EPA Method 524.2
2,2-Dichloropropane	EPA Method 524.2
1,1-Dichloropropene	EPA Method 524.2
cis-1,3-Dichloropropene	EPA Method 524.2
trans-1,3-Dichloropropene	EPA Method 524.2
Hexachlorobutadiene	EPA Method 524.2
Isopropylbenzene	EPA Method 524.2
n-Butylbenzene	EPA Method 524.2
n-Propylbenzene	EPA Method 524.2
p-Isopropyltoluene	EPA Method 524.2
sec-Butylbenzene	EPA Method 524.2
tert-Butylbenzene	EPA Method 524.2
1,2,3-Trichlorobenzene	EPA Method 524.2
1,1,1,2-Tetrachloroethane	EPA Method 524.2
Naphthalene	EPA Method 524.2
1,1,2,2-Tetrachloroethane	EPA Method 524.2
Trichlorofluoromethane (Freon 11)	EPA Method 524.2
Trichlorotrifluoroethane (Freon 113)	EPA Method 524.2
Di-isopropylether (DIPE)	EPA Method 524.2
1,2,3-Trichloropropane(TCP)	EPA Method 524.2



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1,2,3-Trichloropropane	EPA Method 504.1
1,2,4-Trimethylbenzene	EPA Method 524.2
1,3,5-Trimethylbenzene	EPA Method 524.2
Bromoform	EPA Method 524.2
Bromodichloromethane	EPA Method 524.2
Chloroform	EPA Method 524.2
Dibromochloromethane	EPA Method 524.2
TTHM'S	EPA Method 524.2
EDB (Ethylene dibromide)	EPA Method 504.1
DBCP (Dibromochloropropane)	EPA Method 504.1
Bromochloroacetic Acid	EPA Method 552.2
Dibromoacetic Acid	EPA Method 552.2
Dichloroacetic Acid	EPA Method 552.2
Monobromoacetic Acid	EPA Method 552.2
Monochloroacetic Acid	EPA Method 552.2
Trichloroacetic Acid	EPA Method 552.2
Total Haloacetic Acids	EPA Method 552.2
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	EPA Method 537.1
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	EPA Method 537.1
4,8-dioxa-3H-perfluorononanoic acid (DONA)	EPA Method 537.1
Hexafluoropropylene oxide dimer acid (HFPO-DA)	EPA Method 537.1
N-ethyl perfluorooctanesulfonamidoacetic acid (NEfFOSAA)	EPA Method 537.1
N-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	EPA Method 537.1



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Perfluorobutanesulfonic acid (PFBS)	EPA Method 537.1
Perfluorodecanoic acid (PFDA)	EPA Method 537.1
Perfluorododecanoic acid (PFDoA)	EPA Method 537.1
Perfluoroheptanoic acid (PFHpA)	EPA Method 537.1
Perfluorohexanesulfonic acid (PFHxS)	EPA Method 537.1
Perfluorohexanoic acid (PFHxA)	EPA Method 537.1
Perfluorononanoic acid (PFNA)	EPA Method 537.1
Perfluorooctanesulfonic acid (PFOS)	EPA Method 537.1
Perfluorooctanoic acid (PFOA)	EPA Method 537.1
Perfluorotetradecanoic acid (PFTDA)	EPA Method 537.1
Perfluorotridecanoic acid (PFTrDA)	EPA Method 537.1
Perfluoroundecanoic acid (PFUnDA)	EPA Method 537.1

**Potable Water - Inorganic Chemistry**

Alkalinity	SM2320B
Aluminum	EPA Method 200.8
Aluminum	EPA Method 200.7
Antimony	EPA Method 200.8
Antimony	EPA Method 200.5
Antimony	EPA Method 200.9
Arsenic	EPA Method 200.8
Arsenic	EPA Method 200.5
Arsenic	EPA Method 200.9
Barium	EPA Method 200.8
Barium	EPA Method 200.7
Beryllium	EPA Method 200.8
Beryllium	EPA Method 200.7



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Boron	EPA Method 200.7
Cadmium	EPA Method 200.8
Cadmium	EPA Method 200.7
Calcium	EPA Method 200.8
Calcium	EPA Method 200.7
Chloride	EPA Method 300.0
Chromium	EPA Method 200.8
Chromium	EPA Method 200.7
Conductivity	SM 2510B
Conductivity	EPA Method 120.1
Copper	EPA Method 200.8
Copper	EPA Method 200.7
Cyanide	SM 4500CN-E
Fluoride	EPA Method 300.0
Calcium Hardness	EPA Method 200.7
Hardness total as CaCO	EPA Method 200.7
Hardness	SM 2340B
Iron	EPA Method 200.8
Iron	EPA Method 200.7
Lead	EPA Method 200.9
Lead	EPA Method 200.5
Lead	EPA Method 200.8
Magnesium	EPA Method 200.7
Magnesium	EPA Method 200.8
Manganese	EPA Method 200.8
Manganese	EPA Method 200.7
Mercury	EPA Method 245.1
Molybdenum	EPA Method 200.7
Molybdenum	EPA Method 200.8
Nickel	EPA Method 200.8
Nickel	EPA Method 200.7



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Nitrate	EPA Method 353.2
Nitrate + Nitrite	EPA Method 353.2
Nitrite	EPA Method 353.2
Orthophosphate	EPA Method 365.1
pH	SM4500 H+ B
pH	EPA Method 150.1
Potassium	EPA Method 200.8
Potassium	EPA Method 200.7
Selenium	EPA Method 200.8
Selenium	EPA Method 200.9
Selenium	EPA Method 200.5
Silver	EPA Method 200.8
Silver	EPA Method 200.7
Sodium	EPA Method 200.8
Sodium	EPA Method 200.7
Sulfate	EPA Method 300.0
Sulfate	SM 4500SO4-E
Thallium	EPA Method 200.8
Total Dissolved Solids	SM 2540C
Total Organic Carbon	SM 5310B
Turbidity	EPA Method 180.1
Vanadium	EPA Method 200.8
Vanadium	EPA Method 200.7
Zinc	EPA Method 200.8
Zinc	EPA Method 200.7
Total Residual Chlorine	SM 4500CI-G
Free Residual Chlorine	SM 4500CI-G
Total Residual Chlorine	SM 4500CI-D



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**Non-Potable Water - Organic Chemistry**

Aldrin	EPA Method 608.3
alpha-BHC	EPA Method 608.3
beta-BHC	EPA Method 608.3
gamma-BHC (Lindane)	EPA Method 608.3
delta-BHC	EPA Method 608.3
Chlordane (technical)	EPA Method 608.3
gamma-chlordane	EPA Method 608.3
alpha-chlordane	EPA Method 608.3
4,4'-DDT	EPA Method 608.3
4,4'-DDE	EPA Method 608.3
4,4'-DDD	EPA Method 608.3
Dieldrin	EPA Method 608.3
Endosulfan I	EPA Method 608.3
Endosulfan II	EPA Method 608.3
Endosulfan Sulfate	EPA Method 608.3
Endrin	EPA Method 608.3
Endrin Aldehyde	EPA Method 608.3
Heptachlor	EPA Method 608.3
Heptachlor Epoxide	EPA Method 608.3
Methoxychlor	EPA Method 608.3
PCB-1016	EPA Method 608.3
PCB-1221	EPA Method 608.3
PCB-1232	EPA Method 608.3
PCB-1242	EPA Method 608.3
PCB-1248	EPA Method 608.3
PCB-1254	EPA Method 608.3
PCB-1260	EPA Method 608.3
PCB-1016 in Oil	EPA Method 608.3





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PCB-1221 in Oil	EPA Method 608.3
PCB-1232 in Oil	EPA Method 608.3
PCB-1242 in Oil	EPA Method 608.3
PCB-1248 in Oil	EPA Method 608.3
PCB-1254 in Oil	EPA Method 608.3
PCB-1260 in Oil	EPA Method 608.3
Toxaphene	EPA Method 608.3
Acetone	EPA Method 624.1
Acrolein	EPA Method 624.1
Acrylonitrile	EPA Method 624.1
Benzene	EPA Method 624.1
Bromobenzene	EPA Method 624.1
Bromochloromethane	EPA Method 624.1
n-Butylbenzene	EPA Method 624.1
sec-Butylbenzene	EPA Method 624.1
tert-Butylbenzene	EPA Method 624.1
Hexachloroethane	EPA Method 624.1
Hexachlorobutadiene	EPA Method 624.1
Bromomethane(Methyl bromide)	EPA Method 624.1
Bromoform	EPA Method 624.1
2-Butanone	EPA Method 624.1
Carbon Disulfide	EPA Method 624.1
Carbon Tetrachloride	EPA Method 624.1
Chlorobenzene	EPA Method 624.1
Chlorodibromomethane	EPA Method 624.1
Chloroethane	EPA Method 624.1
Chloromethane(Methyl chloride)	EPA Method 624.1
2-Chloroethylvinyl Ether	EPA Method 624.1
Chloroform	EPA Method 624.1
1,2-Dibromo-3-chloropropane (DBCP)	EPA Method 624.1



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1,2-Dibromoethane (EDB, Ethylene	EPA Method 624.1
Dibromomethane	EPA Method 624.1
Dichlorobromomethane	EPA Method 624.1
Dichlorodifluoromethane	EPA Method 624.1
1,1-Dichloroethane	EPA Method 624.1
1,2-Dichloroethane	EPA Method 624.1
1,1-Dichloroethene	EPA Method 624.1
1,2-Dichloropropane	EPA Method 624.1
1,3-Dichloropropane	EPA Method 624.1
2,2-Dichloropropane	EPA Method 624.1
1,1-Dichloropropene	EPA Method 624.1
cis-1,3-Dichloropropene	EPA Method 624.1
trans-1,3-Dichloropropene	EPA Method 624.1
Ethylbenzene	EPA Method 624.1
2-Hexanone	EPA Method 624.1
2-Chlorotoluene	EPA Method 624.1
4-Chlorotoluene	EPA Method 624.1
Isopropylbenzene	EPA Method 624.1
4-Isopropyltoluene	EPA Method 624.1
4-Methyl-2-pentanone (MIBK)	EPA Method 624.1
Methylene Chloride(Dichloromethane)	EPA Method 624.1
n-Propylbenzene	EPA Method 624.1
Naphthalene	EPA Method 624.1
Styrene	EPA Method 624.1
1,1,1,2-Tetrachloroethane	EPA Method 624.1
1,1,2,2-Tetrachloroethane	EPA Method 624.1
Tetrachloroethene	EPA Method 624.1
Toluene	EPA Method 624.1
cis-1,2-Dichloroethene	EPA Method 624.1
trans-1,2-Dichloroethene	EPA Method 624.1
1,1,1-Trichloroethane	EPA Method 624.1



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1,1,2-Trichloroethane	EPA Method 624.1
Trichloroethene	EPA Method 624.1
Trichlorofluoromethane	EPA Method 624.1
1,2,3-Trichloropropane	EPA Method 624.1
1,2,3-Trichlorobenzene	EPA Method 624.1
1,2,4-Trimethylbenzene	EPA Method 624.1
1,3,5-Trimethylbenzene	EPA Method 624.1
Vinyl acetate	EPA Method 624.1
Vinyl Chloride	EPA Method 624.1
Xylenes (total)	EPA Method 624.1
m+p-Xylene	EPA Method 624.1
o-Xylene	EPA Method 624.1
1,2-Dichlorobenzene	EPA Method 624.1
1,3-Dichlorobenzene	EPA Method 624.1
1,4-Dichlorobenzene	EPA Method 624.1
1,2,4-Trichlorobenzene	EPA Method 624.1
Aniline	EPA Method 625.1
Acenaphthene	EPA Method 625.1
Acenaphthylene	EPA Method 625.1
Anthracene	EPA Method 625.1
Benzoic acid	EPA Method 625.1
Benzidine	EPA Method 625.1
Benzo(a)anthracene	EPA Method 625.1
Benzo(a)pyrene	EPA Method 625.1
Benzo(b)fluoranthene	EPA Method 625.1
Benzo(k)fluoranthene	EPA Method 625.1
Benzo(g,h,i)perylene	EPA Method 625.1
Benzyl alcohol	EPA Method 625.1
Bis(2-Chloroethoxy)Methane	EPA Method 625.1
Bis(2-chloroethyl)Ether	EPA Method 625.1
Bis(2-ethylhexyl) Phthalate(DEHP)	EPA Method 625.1



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4-Bromophenyl Phenyl Ether	EPA Method 625.1
Butylbenzyl Phthalate	EPA Method 625.1
Carbazole	EPA Method 625.1
2-Chloronaphthalene	EPA Method 625.1
4-Chloroaniline	EPA Method 625.1
4-Chlorophenyl Phenyl Ether	EPA Method 625.1
Chrysene	EPA Method 625.1
Dibenzo[a,h]anthracene	EPA Method 625.1
Dibenzofuran	EPA Method 625.1
1,2-Dichlorobenzene	EPA Method 625.1
1,3-Dichlorobenzene	EPA Method 625.1
1,4-Dichlorobenzene	EPA Method 625.1
3,3'-Dichlorobenzidine	EPA Method 625.1
Diethyl Phthalate	EPA Method 625.1
Dimethyl Phthalate	EPA Method 625.1
Di-n-butyl Phthalate	EPA Method 625.1
2,4-Dinitrotoluene	EPA Method 625.1
2,6-Dinitrotoluene	EPA Method 625.1
Di-n-octyl Phthalate	EPA Method 625.1
Fluoranthene	EPA Method 625.1
Fluorene	EPA Method 625.1
Hexachlorobenzene	EPA Method 625.1
Hexachlorobutadiene	EPA Method 625.1
Hexachlorocyclopentadiene	EPA Method 625.1
Hexachloroethane	EPA Method 625.1
Indeno[1,2,3-cd]pyrene	EPA Method 625.1
Isophorone	EPA Method 625.1
2-Methylnaphthalene	EPA Method 625.1
2-Methylphenol(o-Cresol)	EPA Method 625.1
4-Methylphenol (p-Cresol)	EPA Method 625.1



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1-Methylnaphthalene	EPA Method 625.1
3+4 Methylphenol(m+p-Cresol)	EPA Method 625.1
Naphthalene	EPA Method 625.1
Nitrobenzene	EPA Method 625.1
2-Nitroaniline	EPA Method 625.1
3-Nitroaniline	EPA Method 625.1
4-Nitroaniline	EPA Method 625.1
N-Nitrosodimethylamine	EPA Method 625.1
N-Nitrosodi-n-propylamine	EPA Method 625.1
N-Nitrosodiphenylamine	EPA Method 625.1
1-Chloropropane	EPA Method 625.1
Phenanthrene	EPA Method 625.1
Pyridine	EPA Method 625.1
Pyrene	EPA Method 625.1
1,2,4-Trichlorobenzene	EPA Method 625.1
2-Chlorophenol	EPA Method 625.1
2,4-Dichlorophenol	EPA Method 625.1
2,4-Dimethylphenol	EPA Method 625.1
2-Methyl-4,6-dinitrophenol	EPA Method 625.1
2,4-Dinitrophenol	EPA Method 625.1
2-Nitrophenol	EPA Method 625.1
4-Nitrophenol	EPA Method 625.1
4-Chlorophenol-3-methylphenol	EPA Method 625.1
Pentachlorophenol	EPA Method 625.1
Phenol	EPA Method 625.1
1,2,4,5-Tetrachlorobenzene	EPA Method 625.1
2,3,4,6-Tetrachlorophenol	EPA Method 625.1
2,4,5-Trichlorophenol	EPA Method 625.1
2,4,6-Trichlorophenol	EPA Method 625.1



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**Non-Potable Water - Inorganic Chemistry**

Alkalinity	SM2320B
Aluminum	EPA Method 200.8
Aluminum	EPA Method 200.7
Ammonia	EPA Method 350.1
Ammonia	SM4500NH3-D
Antimony	EPA Method 200.8
Antimony	EPA Method 200.7
Antimony	SM3113B
Arsenic	SM3113B
Arsenic	EPA Method 200.8
Arsenic	EPA Method 200.7
Barium	EPA Method 200.8
Barium	EPA Method 200.7
Beryllium	EPA Method 200.8
Beryllium	EPA Method 200.7
Boron	EPA Method 200.7
Bromide	EPA Method 300.0
Cadmium	EPA Method 200.8
Cadmium	EPA Method 200.7
Calcium	EPA Method 200.7
Calcium	EPA Method 200.8
Chloride	SM 4500-Cl- E
Chloride	EPA Method 300.0
Chloride	EPA Method 9250
Chromium VI	SM 3500-Cr-B
Chromium (total)	EPA Method 200.8
Chromium (total)	EPA Method 200.7
Cobalt	EPA Method 200.8
Cobalt	EPA Method 200.7



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Copper	EPA Method 200.8
Copper	EPA Method 200.7
Fluoride	EPA 300.0
Total Hardness (as CaCO <sub>3</sub> )	EPA 200.7
Total Hardness (as CaCO <sub>3</sub> )	EPA Method SM2340-B
Iron	EPA Method 200.8
Iron	EPA Method 200.7
Lead	SM3113B
Lead	EPA Method 200.8
Lead	EPA Method 200.7
Magnesium	EPA Method 200.7
Magnesium	EPA Method 200.8
Manganese	EPA Method 200.8
Manganese	EPA Method 200.7
MBAS	SM5540C
Mercury	EPA Method 245.1
Molybdenum	EPA Method 200.7
Molybdenum	EPA Method 200.8
Nickel	EPA Method 200.8
Nickel	EPA Method 200.7
Nitrate as N	EPA Method 353.2
Nitrate-Nitrite (as N)	EPA Method 353.2
Nitrite	SM4500NO <sub>2</sub> -B
Nitrite as N	EPA Method 353.2
Orthophosphate	EPA Methods 365.1
Orthophosphate	EPA Methods 365.3
Tin	EPA Method 200.7
Titanium	EPA Method 200.7
Total Phosphorous	EPA Method 365.1
Total Phosphorous	EPA Method 365.3
Potassium	EPA Method 200.7



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Potassium	EPA Method 200.8
Selenium	EPA Method 200.8
Selenium	EPA Method 200.7
Selenium	SM3113B
Silver	EPA Method 200.7
Silica	SM 4500-SiO <sub>2</sub> D
Sodium	EPA Method 200.7
Sodium	EPA Method 200.8
Strontium	EPA Method 200.7
Sulfate	EPA Method 300.0
Sulfate	SM4500 SO <sub>4</sub> -E
Sulfide	SM4500-S <sub>2</sub> -D
Thallium	EPA Method 200.8
Thallium	EPA Method 200.7
Vanadium	EPA Method 200.7
Zinc	EPA Method 200.8
Zinc	EPA Method 200.7
Total Cyanide	SM4500-CN <sup>-</sup> C, E
Kjeldahl Nitrogen	EPA Method 351.2
Kjeldahl Nitrogen	SM4500-NH <sub>3</sub> D
Total Nitrogen	SM4500-Norg D
Oil and Grease	SM1664A
pH	SM4500-H <sup>+</sup> B
Phenols	EPA Method 420.1
5-Day BOD	SM5210 B
cBOD	SM5210B
COD	SM 5220 D(HACH 8000)
COD	EPA Method 410.4
Specific Conductance	EPA Method 120.1
Specific Conductance	SM2510B





**State of Rhode Island and Providence Plantations  
DEPARTMENT OF HEALTH**

**ESS Laboratory  
185 Frances Avenue  
Cranston, RI 02910  
401-461-7181**

**APPENDIX TO ANALYTICAL LABORATORY CERTIFICATE No. LAI00179**

**Expiration date: December 31, 2024**

**Date Issued: January 24, 2024**

Total Residual Chlorine

SM4500-CI D

Total Residual Chlorine

SM4500-CI G

Volatile residue

SM2540-E

Volatile residue

EPA Method 160.4

Settleable solids

SM2540-F

Total Suspended Solids

SM 2540-D

Total Solids

SM2540B

Total Dissolved Solids

SM2540C

Total Organic Carbon

SM5310B 20TH

Turbidity

EPA Method 180.1