

APPENDIX D

STATE AND FEDERAL ANALYTICAL REQUIREMENTS

The following information contains the analytical requirements for treated sewage sludge that is to be land applied contained in federal regulations and the regulations of the New England states and New York. Where applicable, specific analytes, methods, detection limits, containers, preservation, holding times, and reporting units have been provided

Note: Information contained in this section was provided by each listed state and was current at the time this document was developed. Regulations and approved analytical methods are subject to change. When preparing a sampling plan or collecting samples to demonstrate regulatory compliance, always verify with the appropriate regulatory authority (in advance) that you are using the correct analyte list and analytical methods. Please also note that there is no specific information provided for Connecticut; consult the appropriate state regulatory staff and use the federal table if preparing a biosolids sampling plan for use there.

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FEDERAL SLUDGE ANALYTICAL REQUIREMENTS

Analyte	Required Analytical Methods	Required Detection Limits	Required QA/QC	Sample Handling	
				Container	Preservation
Arsenic	<p><u>AA Furnace</u> SW-846 Method 7060</p> <p><u>AA Gaseous Hydride</u> SW-846 Method 7061</p> <p><u>Inductively Coupled Plasma</u> SW-846 Method 6010</p>	At a minimum 20 mg/kg, otherwise per lab capability	Per requirements of SW-846 Method 7000A and the specific method used	Plastic or glass	4° C 6 mon. hold time
Cadmium	<p><u>AA Furnace</u> SW-846 Method 7131</p> <p><u>AA Direct Aspiration</u> SW-846 Method 7130</p> <p><u>Inductively Coupled Plasma</u> SW-846 Method 6010</p>	At a minimum 20 mg/kg, otherwise per lab capability	Per requirements of SW-846 Method 7000A and the specific method used	Plastic or glass	4° C 6 mon. hold time
Copper	<p><u>AA Furnace</u> SW-846 Method 7211</p> <p><u>AA Direct Aspiration</u> SW-846 Method 7210</p> <p><u>Inductively Coupled Plasma</u> SW-846 Method 6010</p>	At a minimum 200 mg/kg, otherwise per lab capability	Per requirements of SW-846 Method 7000A and the specific method used	Plastic or glass	4° C 6 mon. hold time

FEDERAL SLUDGE ANALYTICAL REQUIREMENTS					
Analyte	Required Analytical Methods	Required Detection Limits	Required QA/QC	Sample Handling	
				Container	Preservation
Lead	<u>AA Furnace</u> SW-846 Method 7421	At a minimum 100 mg/kg, otherwise per lab capability	Per requirements of SW-846 Method 7000A and the specific method used	Plastic or glass	4° C 6 mon. hold time
	<u>AA Direct Aspiration</u> SW-846 Method 7420				
Mercury	<u>Inductively Coupled Plasma</u> SW-846 Method 6010	At a minimum 5 mg/kg, otherwise per lab capability	Per requirements of SW-846 Method 7000A and the specific method used	Plastic or glass	4° C 28 days hold time
	Cold Vapor (manual) SW-846 Method 7470 SW-846 Method 7471				
Molybdenum	<u>AA Furnace</u> SW-846 Method 7481	At a minimum 35 mg/kg, otherwise per lab capability	Per requirements of SW-846 Method 7000A and the specific method used	Plastic or glass	4° C 6 mon. hold time
	<u>AA Direct Aspiration</u> SW-846 Method 7480				
Nickel	<u>Inductively Coupled Plasma</u> SW-846 Method 6010	At a minimum 50 mg/kg, otherwise per lab capability	Per requirements of SW-846 Method 7000A and the specific method used	Plastic or glass	4° C 6 mon. hold time
	<u>AA Direct Aspiration</u> SW-846 Method 7520				
	<u>Inductively Coupled Plasma</u> SW-846 Method 6010				

ATTACHMENT A – FEDERAL SLUDGE ANALYTICAL REQUIREMENTS

Analyte	Required Analytical Methods	Required Detection Limits	Required QA/QC	Sample Handling	
				Container	Preservation
Selenium	<u>AA Furnace</u> SW-846 Method 7740 <u>AA Gaseous Hydride</u> SW-846 Method 7741 <u>Inductively Coupled Plasma</u> SW-846 Method 6010	At a minimum 10 mg/kg, otherwise per lab capability	Per requirements of SW-846 Method 7000A and the specific method used	Plastic or glass	4° C 6 mon. hold time
Zinc	<u>AA Direct Aspiration</u> SW-846 Method 7950 <u>Inductively Coupled Plasma</u> SW-846 Method 6010	At a minimum 100 mg/kg, otherwise per lab capability	Per requirements of SW-846 Method 7000A and the specific method used	Plastic or glass	4° C 6 mon. hold time
pH	EPA-9045 SM-4500-H ⁺	Not applicable	Per method used	Plastic or glass	4° C 24-hours
Total Kjeldahl Nitrogen (TKN)	SM-4500-N _{org} EPA-351.3	Not applicable	Per method used	Plastic or glass	4° C 28-day hold time
Ammonia Nitrogen (NH ₃ -N)	SM-4500-NH3 SW-846 Method 9200	Not applicable	Per method used	Plastic or glass	4° C 28-day hold time
Nitrate Nitrogen (NO ₃ -N)	SM-4500-	Not applicable	Per method used	Plastic or glass	4° C 28-day hold time

Massachusetts Analytical Requirements for Land Application Applicable Regulation: 310 CMR 32.00, Rules and Regulations for Treatment, Disposal, and Transportation of Sewage Sludge					
Analyte	CAS #	Required Analytical Methods	Sample Container	Preservation	Reporting Units
Arsenic	7440-38-2	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Cadmium	7440-43-9	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Chromium	7440-47-3	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Copper	7440-50-8	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Lead	7439-92-1	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Mercury	7439-97-6	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Molybdenum	7439-98-7	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Nickel	7440-02-0	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Selenium	7782-49-2	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Zinc	7440-66-6	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Fecal Coliform	na	SM-9221D,E	glass or plastic	cool to 4° C	mpn/g
Solids Total	na	SM-2540G	glass or plastic	cool to 4° C	%
Nitrate/Nitrite	na	SW-4500-NO ₃ or SW-846 Method 9210 or EPA 353, 3000 series	glass or plastic	cool to 4° C	mg/kg dry wt. (%)
TKN	na	SM-4500-N _{org} or EPA 351.3	glass or plastic	cool to 4° C	mg/kg dry wt. (%)
Ammonia	na	SM-4500-NH ₃ or EPA 350	glass or plastic	cool to 4° C	mg/kg dry wt. (%)
Total Organic Nitrogen	na	calculation	glass or plastic	cool to 4° C	mg/kg dry wt. (%)
Available Phosphoric Acid	na	AOAC	glass or plastic	cool to 4° C	%
Soluble Potash	na	AOAC	glass or plastic	cool to 4° C	%
Specific Conductivity	na	SM-2510B	glass or plastic	cool to 4° C	µmho/cm
pH	na	SM-4500H	glass or plastic	cool to 4° C	SI units
TCLP	na	SW-846, Method 1311	glass, plastic or vials	cool to 4° C	mg/l or ppm
Boron	na	SW-846,6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Total Phosphorous	na	SW-846 or EPA 365	glass or plastic	cool to 4° C	mg/kg dry wt. (%)
Potassium	na	SW-846	glass or plastic	cool to 4° C	mg/kg dry wt. (%)
PCB's	na	SW-846, 8082	glass or plastic	cool to 4° C	mg/kg, dry wt.
VOC's	na	SW-846, 8260	glass or plastic	cool to 4° C	mg/kg,dry wt.
SVOC's	na	SW-846, 8270	glass or plastic	cool to 4° C	mg/kg,dry wt.

Maine Analytical Requirements

Parameter	Acceptable Methods	Container	Preservation	Hold Time
Ammonia	undefined in 405.6D SM-4500-NH3 other DEP approved	plastic or glass	Cool 4° C H ₂ SO ₄ pH <2 [aqueous]	28 days
Arsenic	SW-846 Method 7060 SW-846 Method 7061 SW-846 Method 6010 other DEP approved	plastic or glass	pH<2 HNO ₃ [aqueous]	6 months
Cadmium	SW-846 Method 7130 SW-846 Method 7131 SW-846 Method 6010 other DEP approved	plastic or glass	pH<2 HNO ₃ [aqueous]	6 months
Calcium	SW-846 Method 6010 SW-846 Method 7140 other DEP approved	plastic or glass	pH<2 HNO ₃ [aqueous]	6 months
Calcium Carbonate Equivalents	Calculation from calcium/magnesium results [same as SM 2340B] 2.497 [Ca result] + 4.118 [Mg result]			
Chloride	undefined in 405.6D SW-846 Method 9056 other DEP approved	plastic or glass	none	28 days
Chromium	SW-846 Method 6010 SW-846 Method 6020 SW-846 Method 7190 SW-846 Method 7191 other DEP approved	plastic or glass	pH<2 HNO ₃ [aqueous]	6 months
Copper	SW-846 Method 7210 SW-846 Method 7211 SW-846 Method 6010 other DEP approved	plastic or glass	pH<2 HNO ₃ [aqueous]	6 months

* This is Table B-1 taken from the Maine DEP sampling plan guide titled: Residuals Unit Sampling/Analysis Work Plan Guidance, September 16, 2005., which should be consulted when preparing a sampling plan for use in Maine.

Maine Analytical Requirements*				
Parameter	Acceptable Methods	Container	Preservation	Hold Time
Iron	SW-846 Method 6010 SW-846 Method 7380 SW-846 Method 7381	plastic or glass	pH<2 HNO ₃ [aqueous]	6 months
Lead	SW-846 Method 7420 SW-846 Method 7421 SW-846 Method 6010 other DEP approved	plastic or glass	pH<2 HNO ₃ [aqueous]	6 months
Magnesium	SW-846 Method 6010 SW-846 Method 7450 other DEP approved	plastic or glass	pH<2 HNO ₃ [aqueous]	6 months
Mercury	SW-846 Method 7470 SW-846 Method 7471 other DEP approved	plastic or glass	Cool 4° C pH<2 HNO ₃ [aqueous]	28 days
Molybdenum	SW-846 Method 7480 SW-846 Method 7481 SW-846 Method 6010 other DEP approved	plastic or glass	pH<2 HNO ₃ [aqueous]	6 months
Nickel	SW-846 Method 7520 SW-846 Method 6010 SW-846 Method 6020 SW-846 Method 7521 other DEP approved	plastic or glass	pH<2 HNO ₃ [aqueous]	6 months
Nitrate	undefined in 405.6D SM-4500-NO3 SW-846 Method 9056 other DEP approved	plastic or glass	Cool 4° C H ₂ SO ₄ pH <2 [aqueous]	28 days
Nitrite	undefined in 405.6D SW-846 Method 9056 other DEP approved	plastic or glass	Cool 4° C H ₂ SO ₄ pH <2 [aqueous]	28 days

* This is Table B-1 taken from the Maine DEP sampling plan guide titled: Residuals Unit Sampling/Analysis Work Plan Guidance, September 16, 2005., which should be consulted when preparing a sampling plan for use in Maine.

Maine Analytical Requirements*

Parameter	Acceptable Methods	Container	Preservation	Hold Time
Percent Dry Solids	undefined in 405.6D SM-2540 G other DEP approved	plastic or glass	Cool 4° C	7 days
pH	undefined in 405.6D SW-846 Method 9045 SM-4500 H+ other DEP approved	plastic or glass	none	24 hours [liquids]
Salt toxicity	electrical conductivity other DEP approved	plastic or glass	none	6 months
Selenium	SW-846 Method 7740 SW-846 Method 7741 SW-846 Method 7051 SW-846 Method 6010 other DEP approved	plastic or glass	pH<2 HNO ₃ [aqueous]	6 months
Sodium	undefined in 405.6D SW-846 Method 6010 SW-846 Method 7770 other DEP approved	plastic or glass	pH<2 HNO ₃ [aqueous]	6 months
TCLP (full suite)	SW-846 Method 1311	glass, PFTE-lined cap	Cool 4° C (for VOC analysis)	14 days (for VOC analysis)
Total Carbon	undefined in 405.6D SM-5310 B SW-846 Method 9060 other DEP approved	amber glass with TFE lined caps	Cool 4° C H ₂ SO ₄ pH <2 [aqueous]	
Total Kjeldahl Nitrogen	undefined in 405.6D SM-4500-Norg EPA 351.3 other DEP approved	plastic or glass	Cool 4° C	28 days

* This is Table B-1 taken from the Maine DEP sampling plan guide titled: Residuals Unit Sampling/Analysis Work Plan Guidance, September 16, 2005., which should be consulted when preparing a sampling plan for use in Maine.

Maine Analytical Requirements*

Parameter	Acceptable Methods	Container	Preservation	Hold Time
Total Phosphorus	undefined in 405.6D SW-846 Method 6010 other DEP approved	plastic or glass	pH<2 HNO ₃ [aqueous]	6 months
Total Potassium	undefined in 405.6D SW-846 Method 6010 SW-846 Method 7610 other DEP approved	plastic or glass	pH<2 HNO ₃ [aqueous]	6 months
Total Volatile Solids	undefined in 405.6D SM-2540 G other DEP approved	plastic or glass	Cool 4° C	7 days
Zinc	SW-846 Method 7950 SW-846 Method 6010 SW-846 Method 6020 SW-846 Method 7951 other DEP approved	plastic or glass	pH<2 HNO ₃ [aqueous]	6 months

* This is Table B-1 taken from the Maine DEP sampling plan guide titled: Residuals Unit Sampling/Analysis Work Plan Guidance, September 16, 2005., which should be consulted when preparing a sampling plan for use in Maine.

Additional parameters for sewage sludge generated by POTWs with an average daily flow greater than 2.5 millions of gallons/day; POTWs with pulp and paper, tannery, textile-related or other significant industrial wastewater inputs; POTWs required to enact an Industrial Pretreatment Program according to U.S. EPA regulations 40 CFR Part 403; and sludge or residuals from pulp and paper mills, tanneries, textile mills, and ash generators.

Maine Analytical Requirements*

Parameter	Acceptable Methods	Container	Preservation	Hold Time
Dioxins	EPA 1613 SW-846 Method 8290 other DEP approved	amber glass, PFTE-lined cap	Cool 4° C	30 days
Dioxin TEQs	calculated from Dioxins data as per Chapter 405 Table 405.1 and Table 405.2			
Target SVOCs	SW-846 Methods other DEP approved	glass, PFTE-lined cap	Cool 4° C Na ₂ S ₂ O ₃ [aqueous with residual chlorine]	14 days [solids] 7 days [aqueous]
Target VOCs	SW-846 Methods other DEP approved	glass, PFTE-lined cap	Cool 4° C HCl pH <2 [aqueous] Na ₂ S ₂ O ₃ [aqueous with residual chlorine] Methanol preservation [solids] <i>**See appropriate preparation method</i>	14 days
Total PCBs	SW-846 Method 8082 SW-846 Method 8270 other DEP approved	glass, PFTE-lined cap	Cool 4° C Na ₂ S ₂ O ₃ [aqueous with residual chlorine]	14 days [solids] 7 days [aqueous]

* This is Table B-2 taken from the Maine DEP sampling plan guide titled: Residuals Unit Sampling/Analysis Work Plan Guidance, September 16, 2005., which should be consulted when preparing a sampling plan for use in Maine.

Special tests that may be required.

Maine Analytical Requirements*

Parameter	Methods	Notes
Compost Stability	Aerated Pile Dewars Flask Respiration other DEP approved	See Chapter 405.6.D(2)(i): temperature monitoring in a compost pile See Chapter 405.6.D(2)(ii): temperature monitoring in a container ASTM method D5975-96 Standard Test Method for Determining the Stability of Compost by Measuring Oxygen Consumption
Pathogens: Salmonella Fecal Coliform Enteric virus Helminth ova	SM 9260 D SM 9221 D or E ASTM D 4994-89 EPA 600/1-87-014 other DEP approved	Following treatment by one or more of the pathogen reduction standards, residuals which may contain human pathogens may require compliance testing for one or more of these indicator parameters
Target Pesticides	SW846 8081 other DEP approved	May be required based on a description of the process generating the residual

The Department may require analysis for other parameters that, based on a description of the process generating the residual, may be in the residual in significant concentrations to adversely impact the utilization program.

* This is Table B-3 taken from the Maine DEP sampling plan guide titled: Residuals Unit Sampling/Analysis Work Plan Guidance, September 16, 2005., which should be consulted when preparing a sampling plan for use in Maine.

New Hampshire Analytical Requirements for Land Application

Applicable Regulation: Env-Ws 800, Sludge Management Rules

Analyte	CAS #	Minimum Detection Limit (mg/kg)	Required Analytical Method(s)	Recommended Sample Container	Preservation	Reporting Units
Dichlorodifluoromethane	75-71-8	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Chloromethane	74-87-3	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Vinyl chloride	75-01-4	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Chloroethane	75-00-3	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Bromomethane	74-83-9	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Trichlorofluoromethane	75-69-4	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Diethyl ether	60-29-7	5.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Acetone	67-64-1	5.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
1,1-Dichloroethene	75-35-4	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Carbon disulfide	75-15-0	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Methylene chloride	75-09-2	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Methyl-t-butyl ether(MTBE)	1634-04-4	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
trans-1,2-Dichloroethene	156-60-5	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
1,1-Dichloroethane	75-34-3	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
2-Butanone(MEK)	78-93-3	5.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
2,2-Dichloropropane	590-20-7	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
cis-1,2-Dichloroethene	156-59-2	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Chloroform	67-66-3	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Tetrahydrofuran(THF)	109-99-9	5.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Bromochloromethane	74-97-5	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
1,1,1-Trichloroethane	71-55-6	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
1,1-Dichloropropene	563-58-6	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Carbon tetrachloride	56-23-5	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
1,2-Dichloroethane	107-06-2	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Benzene	71-43-2	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Trichloroethene	79-01-6	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
1,2-Dichloropropane	78-87-5	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Bromodichloromethane	75-27-4	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.

New Hampshire Analytical Requirements for Land Application

Applicable Regulation: Env-W's 800, Sludge Management Rules

Analyte	CAS #	Minimum Detection Limit (mg/kg)	Required Analytical Method(s)	Recommended Sample Container	Preservation	Reporting Units
Dibromomethane	74-95-3	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
4-Methyl-2-pentanone (MIBK)	108-10-1	5.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
cis-1,3-Dichloropropene	10061-01-5	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Toluene	108-88-3	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
trans-1,3-Dichloropropene	10061-02-6	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
1,1,2-Trichloroethane	79-00-5	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
2-Hexanone	591-78-6	5.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
1,3-Dichloropropane	142-28-9	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Tetrachloroethene	127-18-4	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Dibromochloromethane	124-48-1	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
1,2-Dibromoethane	106-93-4	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Chlorobenzene	108-90-7	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
1,1,1,2-Tetrachloroethane	630-20-6	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Ethylbenzene	100-41-4	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
m&p-Xylene	108-38-3/106-42-3	10.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
o-Xylene	95-47-6	5.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Styrene	100-42-5	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Bromoform	75-25-2	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
iso-Propylbenzene	98-82-8	5.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
1,1,2,2-Tetrachloroethane	79-34-5	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
1,2,3-Trichloropropane	96-18-4	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
n-Propylbenzene	103-65-1	5.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Bromobenzene	108-86-1	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
1,3,5-Trimethylbenzene	108-67-8	5.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
2-Chlorotoluene	95-49-8	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
4-Chlorotoluene	106-43-4	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
tert-Butylbenzene	98-06-6	5.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.

New Hampshire Analytical Requirements for Land Application

Applicable Regulation: Env-Ws 800, Sludge Management Rules

Analyte	CAS #	Minimum Detection Limit (mg/kg)	Required Analytical Method(s)	Recommended Sample Container	Preservation	Reporting Units
1,2,4-Trimethylbenzene	95-63-6	5.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
sec-Butylbenzene	135-98-8	5.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
p-isopropyltoluene	99-87-6	5.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
1,3-Dichlorobenzene	541-73-1	5.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
1,4-Dichlorobenzene	106-46-7	5.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
n-Butylbenzene	104-51-8	5.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
1,2-Dichlorobenzene	95-50-1	5.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
1,2-Dibromo-3-chloropropane	96-12-8	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
1,2,4-Trichlorobenzene	102-82-1	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Hexachlorobutadiene	87-68-3	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Naphthalene	91-20-3	5.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
1,2,3-Trichlorobenzene	87-61-6	2.0	SW-846, Method 8260	glass	Methanol and cool to 4° C	mg/kg dry wt.
Azobenzene	122-66-7	2.5	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
2,4-Dinitrophenol	51-28-5	12.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
2,4,6-Trichlorophenol	88-06-2	2.5	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
2,4-Dichlorophenol	120-83-2	2.5	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
2,4-Dimethylphenol	105-67-9	2.5	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
2,4,5-Trichlorophenol	95-95-4	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
2,4-Dinitrotoluene	121-14-2	2.5	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
2,6-Dinitrotoluene	606-20-2	2.5	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
2-Chloronaphthalene	91-59-7	10.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
2-Chlorophenol	95-57-8	2.5	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
2-Methylnaphthalene	91-57-6	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
2-Methylphenol	95-48-7	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
2-Nitroaniline	88-74-4	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
2-Nitrophenol	88-75-5	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
3,3'-Dichlorobenzidine	91-94-1	4.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
3-Nitroaniline	99-09-2	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.

New Hampshire Analytical Requirements for Land Application

Applicable Regulation: Env-Ws 800, Sludge Management Rules

Analyte	CAS #	Minimum Detection Limit (mg/kg)	Required Analytical Method(s)	Recommended Sample Container	Preservation	Reporting Units
3&4-Methylphenol	106-44-5/ 106-44-5	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
4,6-Dinitro-2-methylphenol	534-52-1	12.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
4-Bromophenyl-phenylether	101-55-3	10.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
4-Chloro-3-methylphenol	59-50-7	10.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
4-Chloroaniline	106-47-8	2.5	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
4-Chlorophenyl-phenylether	7005-72-3	10.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
4-Nitroaniline	100-01-6	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
4-Nitrophenol	100-02-7	12.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Acenaphthene	83-32-9	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Acenaphthylene	208-96-8	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Anthracene	120-12-7	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Benzidine	92-87-5	12.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Benzo(a)anthracene	56-55-3	2.5	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Benzo(a)pyrene	50-32-8	2.5	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Benzo(b)fluoranthene	205-99-2	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Benzo(g,h,i)perylene	191-24-2	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Benzo(k)fluoranthene	207-08-9	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
bis(2-Chloroethoxy)methane	111-91-1	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
bis(2-Chloroethyl)ether	111-44-4	2.5	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
bis(2-chloroisopropyl)ether	39638-32-9	2.5	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
bis(2-Ethylhexyl)phthalate	117-81-7	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Butylbenzylphthalate	85-68-7	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Carbazole	86-74-8	2.5	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Chrysene	218-01-9	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Di-n-butylphthalate	84-74-2	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Di-n-octylphthalate	117-84-0	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Dibenz(a,h)anthracene	53-70-3	2.5	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Dibenzofuran	132-64-9	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.

New Hampshire Analytical Requirements for Land Application

Applicable Regulation: Env-W's 800, Sludge Management Rules

Analyte	CAS #	Minimum Detection Limit (mg/kg)	Required Analytical Method(s)	Recommended Sample Container	Preservation	Reporting Units
Diethylphthalate	84-66-2	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Dimethylphthalate	131-11-3	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Fluoranthene	206-44-0	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Fluorene	86-73-7	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Hexachlorobenzene	118-74-1	2.5	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Hexachlorocyclopentadiene	77-47-4	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Hexachloroethane	67-72-1	2.5	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Indeno(1,2,3-cd)pyrene	193-39-5	2.5	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Isophorone	78-59-1	2.5	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
n-Nitroso-di-n-propylamine	621-64-7	2.5	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
N-Nitrosodimethylamine	62-75-9	4.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
n-Nitrosodiphenylamine	86-30-6	2.5	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Nitrobenzene	98-95-3	2.5	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Pentachlorophenol	87-86-5	4.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Phenanthrene	85-01-8	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Phenol	108-95-2	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Pyrene	129-00-0	5.0	SW-846, Method 8270	glass	cool to 4° C	mg/kg dry wt.
Arsenic	7440-38-2	10	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Cadmium	7440-43-9	1.0	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Chromium	7440-47-3	10	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Copper	7440-50-8	10	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Lead	7439-92-1	11	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Mercury	7439-97-6	0.05	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Molybdenum	7439-98-7	18	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Nickel	7440-02-0	10	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Selenium	7782-49-2	18	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Zinc	7440-66-6	10	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Antimony	7440-36-0	8	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.

New Hampshire Analytical Requirements for Land Application

Applicable Regulation: Env-Ws 800, Sludge Management Rules

Analyte	CAS #	Minimum Detection Limit (mg/kg)	Required Analytical Method(s)	Recommended Sample Container	Preservation	Reporting Units
Beryllium	7440-41-7	0.5	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Silver	7440-22-4	4.0	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Thallium	7440-28-0	10	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Aldrin	309-00-2	0.5	SW-846, Method 8081	glass	cool to 4° C	mg/kg dry wt.
gamma-BHC	58-89-9	0.5	SW-846, Method 8081	glass	cool to 4° C	mg/kg dry wt.
alpha-BHC	319-84-6	0.5	SW-846, Method 8081	glass	cool to 4° C	mg/kg dry wt.
delta-BHC	319-86-8	0.5	SW-846, Method 8081	glass	cool to 4° C	mg/kg dry wt.
beta-BHC	319-85-7	0.5	SW-846, Method 8081	glass	cool to 4° C	mg/kg dry wt.
Chlordane	57-74-9	0.8	SW-846, Method 8081	glass	cool to 4° C	mg/kg dry wt.
4,4'-DDT	50-29-3	0.5	SW-846, Method 8081	glass	cool to 4° C	mg/kg dry wt.
4,4'-DDE	72-55-9	0.5	SW-846, Method 8081	glass	cool to 4° C	mg/kg dry wt.
4,4'-DDD	72-54-8	0.5	SW-846, Method 8081	glass	cool to 4° C	mg/kg dry wt.
Endosulfan I	959-98-8	0.5	SW-846, Method 8081	glass	cool to 4° C	mg/kg dry wt.
Endosulfan II	33213-65-9	0.5	SW-846, Method 8081	glass	cool to 4° C	mg/kg dry wt.
Endosulfan Sulfate	1031-07-8	0.5	SW-846, Method 8081	glass	cool to 4° C	mg/kg dry wt.
Endrin	72-20-8	0.5	SW-846, Method 8081	glass	cool to 4° C	mg/kg dry wt.
Endrin Aldehyde	7421-93-4	0.5	SW-846, Method 8081	glass	cool to 4° C	mg/kg dry wt.
Heptachlor	76-44-8	0.5	SW-846, Method 8081	glass	cool to 4° C	mg/kg dry wt.
Heptachlor Epoxide	1024-57-3	0.5	SW-846, Method 8081	glass	cool to 4° C	mg/kg dry wt.
Toxaphene	8001-35-2	0.8	SW-846, Method 8081	glass	cool to 4° C	mg/kg dry wt.
PCB-1242	53469-21-9	1.0	SW-846, Method 8082	glass	cool to 4° C	mg/kg dry wt.
PCB-1254	11097-69-1	1.0	SW-846, Method 8082	glass	cool to 4° C	mg/kg dry wt.
PCB-1221	11104-28-2	1.0	SW-846, Method 8082	glass	cool to 4° C	mg/kg dry wt.
PCB-1232	11141-16-5	1.0	SW-846, Method 8082	glass	cool to 4° C	mg/kg dry wt.
PCB-1248	12672-29-6	1.0	SW-846, Method 8082	glass	cool to 4° C	mg/kg dry wt.
PCB-1260	11096-82-5	1.0	SW-846, Method 8082	glass	cool to 4° C	mg/kg dry wt.
PCB-1016	12674-11-2	1.0	SW-846, Method 8082	glass	cool to 4° C	mg/kg dry wt.
pH	na	na	SM-4500H	glass or plastic	cool to 4° C	SI units

New Hampshire Analytical Requirements for Land Application

Applicable Regulation: Env-Ws 800, Sludge Management Rules

Analyte	CAS #	Minimum Detection Limit (mg/kg)	Required Analytical Method(s)	Recommended Sample Container	Preservation	Reporting Units
Solids Total	na	na	SM-2540G	glass or plastic	cool to 4° C	%
Nitrate/Nitrite	na	30	SW-4500-NO3 or SW-846 Method 9210 or EPA 353, 3000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
TKN	na	300	SM-4500-Norg or EPA 351.3	glass or plastic	cool to 4° C	mg/kg dry wt.
Ammonia	na	30	SM-4500-NH3 or EPA 350	glass or plastic	cool to 4° C	mg/kg dry wt.
Total Organic Nitrogen	na	na	calculation	glass or plastic	cool to 4° C	mg/kg dry wt.
Potassium	na	15	SM-3500K or SW-846 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Phosphorus	7723-14-0	15	SM-4500-P or EPA 365	glass or plastic	cool to 4° C	mg/kg dry wt.
2,3,7,8-TCDD & 2,3,7,8-TCDF	1746-01-6	5 ppt	EPA 1613A	glass	cool to 4° C	ppt TEQ
Remaining Congeners of 2,3,7,8-TCDD	1746-01-6	5 ppt	EPA 1613A	glass	cool to 4° C	ppt TEQ
Cyanide Total	57-12-5	10	SM-4500-CN	glass or plastic	cool to 4° C	mg/kg dry wt.
Enteric Viruses (if applicable)	na	1 PFU/4g	ASTM Method D4994-89	glass or plastic	cool to 4° C	PFU/4g dry wt.

New Hampshire Analytical Requirements for Land Application

New York Analytical Requirements for Land Application

Applicable Regulation: NYCRR Part 360, Section 360-5.10

Analyte	CAS #	Required Analytical Methods	Recommended Sample Container	Max. Holding Time/ Preservation
VOLATILE ORGANICS				
Acrolein	107-02-8	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
Acrylonitrile	107-13-1	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
Benzene	71-43-2	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
Bromoform	75-25-2	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
Carbon tetrachloride	56-23-5	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
Chlorobenzene	108-90-7	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
Chlorodibromomethane	124-48-1	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
Chloroethane	75-00-3	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
2-chloroethylvinyl ether	110-75-8	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
Chloroform	67-66-3	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
Dichlorobromomethane	75-27-4	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
1,1-dichloroethane	75-34-3	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
1,2-dichloroethane	107-06-2	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
Trans-1,2-dichloroethylene	156-60-5	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
1,1-dichloroethylene	75-35-4	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
1,2-dichloropropane	78-87-5	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
1,3-dichloropropene	542-75-6	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
Ethylbenzene	100-41-4	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
Methyl bromide	74-83-9	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
Methyl chloride	74-87-3	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
Methylene chloride	75-09-2	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
1,1,2,2-tetrachloroethane	79-34-5	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
Tetrachloroethylene	127-18-4	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
Toluene	108-88-3	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
1,1,1-trichloroethane	71-55-6	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
1,1,2-trichloroethane	79-00-5	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
Trichloroethylene	79-01-6	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C
Vinyl chloride	75-01-4	SW-846 Method 8260	glass with Teflon liner	14 days/cool to 4° C

New York Analytical Requirements for Land Application

Applicable Regulation: NYCRR Part 360, Section 360-5.10

Analyte	CAS #	Required Analytical Methods	Recommended Sample Container	Max. Holding Time/ Preservation
SEMIVOLATILE ORGANICS				
4-chloro-3-methylphenol	59-50-7	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
2-chlorophenol	95-57-8	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
2,4-dichlorophenol	120-83-2	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
2,4-dimethylphenol	105-67-9	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
4,6-dinitro-2-methylphenol	534-52-1	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
2,4-dinitrophenol	51-28-5	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
2-nitrophenol	88-75-5	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
4-nitrophenol	100-02-7	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Pentachlorophenol	87-86-5	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Phenol	108-95-2	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
2,4,6-trichlorophenol	88-06-2	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Acenaphthene	83-32-9	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Acenaphthylene	208-96-8	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Anthracene	120-12-7	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Benidine	92-87-5	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Benzo(a)anthracene	56-55-3	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Benzo(a)pyrene	50-32-8	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Benzo(b)fluoranthene	205-99-2	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Benzo(g,h,i)perylene	191-24-2	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Benzo(k)fluoranthene	207-08-9	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Bis(2-chlorethoxy)methane	111-91-1	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Bis(2-chloroethyl) ether	111-44-4	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Bis(2-chloroisopropyl) ether	108-60-1	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Bis(2-ethylhexyl) phthalate	117-81-7	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
4-bromophenyl phenyl ether	101-55-3	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Butyl benzyl phthalate	85-68-7	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
2-chloronaphthalene	91-58-7	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
4-chlorophenyl phenyl ether	7005-72-3	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C

New York Analytical Requirements for Land Application

Applicable Regulation: NYCRR Part 360, Section 360-5.10

Analyte	CAS #	Required Analytical Methods	Recommended Sample Container	Max. Holding Time/ Preservation
SEMIVOLATILE ORGANICS				
Chrysene	218-01-9	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Di-n-butyl phthalate	84-74-2	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Di-n-Octyl phthalate	117-84-0	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Dibenzo(a,h)anthracene	53-70-3	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
1,2-dichlorobenzene	95-50-1	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
1,3-dichlorobenzene	541-73-1	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
1,4-dichlorobenzene	106-46-7	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
3,3'-dichlorobenzidine	91-94-1	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Diethyl phthalate	84-66-2	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Dimethyl phthalate	131-11-3	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
2,4-dinitrotoluene	121-14-2	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
2,6-dinitrotoluene	606-20-2	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
1,2-diphenylhydrazine	122-66-7	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Fluoranthene	206-44-0	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Fluorene	86-73-7	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Hexachlorobenzene	118-74-1	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Hexachlorobutadiene	87-68-3	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Hexachlorocyclopentadiene	77-47-4	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Hexachloroethane	67-72-1	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Indeno(1,2,3-cd)pyrene	193-39-5	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Isophorone	78-59-1	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Naphthalene	91-20-3	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Nitrobenzene	98-95-3	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
N-nitrosodipropylamine	621-64-7	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
N-nitrosodiethylamine	62-75-9	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
N-nitrosodiphenylamine	86-30-6	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Phenanthrene	85-01-8	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
Pyrene	129-00-0	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C
1,2,4-trichlorobenzene	120-82-1	SW-846 Method 8270	amber glass with Teflon liner	14 days/cool to 4° C

New York Analytical Requirements for Land Application

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New York Analytical Requirements for Land Application

Applicable Regulation: NYCRR Part 360, Section 360-5.10

Analyte	CAS #	Required Analytical Methods	Recommended Sample Container	Max. Holding Time/ Preservation
PESTICIDES/PCBs				
Aldrin	309-00-2	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
Alpha-BHC	319-84-6	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
Beta-BHC	319-85-7	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
Delta-BHC	319-86-8	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
Gamma-BHC [Lindane]	58-89-9	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
Alpha-chlordane	5103-71-9	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
Gamma-chlordane	5103-74-2	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
4,4'-DDD [p,p'-TDE]	72-54-8	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
4,4'-DDE [p,p'-DDX]	72-55-9	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
4,4'-DDT	50-29-3	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
Dieldrin	60-57-1	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
Alpha-endosulfan	959-98-8	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
Beta-endosulfan	33213-65-9	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
Endosulfan sulfate	1031-07-8	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
Endrin	72-20-8	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
Endrin aldehyde	7421-93-4	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
Heptachlor	76-44-8	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
Heptachlor epoxide	1024-57-3	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
PCB-1016 (Arochlor 1016)	12674-11-2	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
PCB-1221 (Arochlor 1221)	11104-28-2	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
PCB-1232 (Arochlor 1232)	11141-16-5	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
PCB-1242 (Arochlor 1242)	53469-21-9	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
PCB-1248 (Arochlor 1248)	12672-29-6	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
PCB-1254 (Arochlor 1254)	11097-69-1	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
PCB-1260 (Arochlor 1260)	11096-82-5	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C
Toxaphene	8001-35-2	SW-846 Method 8081/8082	amber glass	14 days/cool to 4° C

New York Analytical Requirements for Land Application

New York Analytical Requirements for Land Application

Applicable Regulation: NYCRR Part 360, Section 360-5.10

Analyte	CAS #	Required Analytical Methods	Recommended Sample Container	Max. Holding Time/Preservation
METALS				
Arsenic	7440-38-2	SW-846 Method 6010/7060/7061	glass or plastic	6 months/cool to 4° C
Cadmium	7440-43-9	SW-846 Method 6010/7130/7131	glass or plastic	6 months/cool to 4° C
Chromium	7440-47-3	SW-846 Method 6010/7190/7191	glass or plastic	6 months/cool to 4° C
Copper	7440-50-8	SW-846 Method 6010/7210/7211	glass or plastic	6 months/cool to 4° C
Lead	7439-92-1	SW-846 Method 6010/7420/7421	glass or plastic	6 months/cool to 4° C
Mercury	7439-97-6	SW-846 Method 7470/7471	glass or plastic	28 days/cool to 4° C
Molybdenum	7439-98-7	SW-846 Method 6010/7480/7481	glass or plastic	6 months/cool to 4° C
Nickel	7440-02-0	SW-846 Method 6010/7520	glass or plastic	6 months/cool to 4° C
Selenium	7782-49-2	SW-846 Method 6010/7740/7741	glass or plastic	6 months/cool to 4° C
Zinc	7440-66-6	SW-846 Method 6010/7950/7951	glass or plastic	6 months/cool to 4° C
OTHER PARAMETERS				
pH	na	SW-846 Method 9045	glass or plastic	
Solids Total	na	Standard Method - 2540G	glass or plastic	7 days/cool to 4° C
Nitrate	na	Standard Method - 4500-NO3	glass or plastic	28 days/cool to 4° C
TKN	na	Standard Method - 4500-Norg	glass or plastic	28 days/cool to 4° C
Ammonia	na	Standard Method -4500-NH3	glass or plastic	28 days/cool to 4° C
Potassium	7440-09-7	SW-846 Method 6010/7610	glass or plastic	6 months/cool to 4° C
Phosphorus	7723-14-0	Standard Method - 4500-P	glass or plastic	28 days/cool to 4° C
Fecal Coliform	na	Standard Method - 9221E/9222D	glass or plastic	24 hours/cool to 4° C
Salmonella sp.	na	Standard Method - 9260D.1	glass or plastic	24 hours/cool to 4° C
Viable Helminth Ova	na	EPA/625/R-92/013 Appendix I	glass or plastic	1 month/cool to 4° C
Enteric Viruses	na	ASTM Method D4994-89	glass or plastic	24 hours/cool to 4° C

Rhode Island Analytical Requirements for Land Application

Applicable Regulation: #12-190-008, Rules and Regulations for the Treatment, Disposal, Utilization and Transportation of Sewage Sludge

Analyte	CAS #	Required Analytical Method(s)	Sample Container	Preservation	Reporting Units
Arsenic	7440-38-2	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Cadmium	7440-43-9	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Chromium	7440-47-3	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Copper	7440-50-8	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Lead	7439-92-1	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Mercury	7439-97-6	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Molybdenum	7439-98-7	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Nickel	7440-02-0	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Selenium	7782-49-2	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Zinc	7440-66-6	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Fecal Coliform	na	SM-9221D,E	glass or plastic	cool to 4° C	mpn/g
Solids Total	na	SM-2540G	glass or plastic	cool to 4° C	%
Nitrate/Nitrite	na	SW-4500-NO3 or SW-846 Method 9210 or EPA 353, 3000 series	glass or plastic	cool to 4° C	mg/kg dry wt. (%)
TKN	na	SM-4500-Norg or EPA 351.3	glass or plastic	cool to 4° C	mg/kg dry wt. (%)
Ammonia	na	SM-4500-NH3 or EPA 350	glass or plastic	cool to 4° C	mg/kg dry wt. (%)
Total Organic Nitrogen	na	calculation	glass or plastic	cool to 4° C	mg/kg dry wt. (%)
Available Phosphoric Acid	na	AOAC	glass or plastic	cool to 4° C	%
Soluble Potash	na	AOAC	glass or plastic	cool to 4° C	%
Specific Conductivity	na	SM-2510B	glass or plastic	cool to 4° C	µmho/cm
pH	na	SM-4500H	glass or plastic	cool to 4° C	SI units
TCLP	na	SW-846, Method 1311	glass, plastic or vials	cool to 4° C	mg/l or ppm

Rhode Island Analytical Requirements for Land Application

DRAFT Vermont Recommended Analytical Methods for Biosolids Testing

Analyte	CAS #	Required Analytical Method(s)	Sample Container	Preservation	Reporting Units
Total Metals					
Arsenic	7440-38-2	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Cadmium	7440-43-9	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Chromium	7440-47-3	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Copper	7440-50-8	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Lead	7439-92-1	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Mercury	7439-97-6	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Molybdenum	7439-98-7	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Nickel	7440-02-0	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Selenium	7782-49-2	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
Zinc	7440-66-6	SW-846, 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt.
TCLP					
		SW-846, Method 1311	glass vials	cool to 4° C	mg/l
PCBs					
PCB-1242	53469-21-9	SW-846, Method 8082	glass	cool to 4° C	mg/kg dry wt.
PCB-1254	11097-69-1	SW-846, Method 8082	glass	cool to 4° C	mg/kg dry wt.
PCB-1221	11104-28-2	SW-846, Method 8082	glass	cool to 4° C	mg/kg dry wt.
PCB-1232	11141-16-5	SW-846, Method 8082	glass	cool to 4° C	mg/kg dry wt.
PCB-1248	12672-29-6	SW-846, Method 8082	glass	cool to 4° C	mg/kg dry wt.
PCB-1260	11096-82-5	SW-846, Method 8082	glass	cool to 4° C	mg/kg dry wt.
PCB-1016	12674-11-2	SW-846, Method 8082	glass	cool to 4° C	mg/kg dry wt.
Pathogen Indicator*					
Fecal Coliform	na	SM-9221	glass or plastic	cool to 4° C	MPN / g
Salmonella	na	SM-9260	glass or plastic	cool to 4° C	MPN / 4 g

*Please note that Vermont intends to replace the fecal coliform test with Methods 1680 and 1681 and the salmonella test with Method 1682, when those methods are adopted by the federal government.

DRAFT Vermont Recommended Analytical Methods for Biosolids Testing

Analyte	CAS #	Required Analytical Method(s)	Sample Container	Preservation	Reporting Units
Nutrients					
Nitrate/Nitrite	NO3 1479-76-50 NO2 7697-37-2	SM-4500-NO3 or SW-846 Method 9210 or EPA 353, 3000 series	glass or plastic	cool to 4° C	mg/kg dry wt.(or %)
TKN	na	SM-4500-Norg or EPA 351.3	glass or plastic	cool to 4° C	mg/kg dry wt. (or %)
Ammonia	na	SM-4500-NH3 or EPA 350	glass or plastic	cool to 4° C	mg/kg dry wt. (or %)
Total Organic Nitrogen	na	calculation	glass or plastic	cool to 4° C	mg/kg dry wt. (or %)
Total Phosphorus	7723-14-0	SM-4500-P or EPA 365	glass or plastic	cool to 4° C	mg/kg dry wt. (or %)
Total Potassium	7440-97	SM-3500K or SW-846 6000/7000 series	glass or plastic	cool to 4° C	mg/kg dry wt. (or %)
Other					
pH	na	SM-4500H	glass or plastic	cool to 4° C	SI units
Solids Total	na	SM-2540G	glass or plastic	cool to 4° C	%

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