

**Environmental  
Protection Agency**

John R. Kasich, Governor  
Mary Taylor, Lt. Governor  
Scott J. Nally, Director

January 21, 2011

**Re:** Hocking County  
Laurelville WWTP  
0PA00013\*FD  
WWTP Inspection  
Correspondence (PWW)

Mayor and Council  
Village of Laurelville  
P.O. Box 393  
Laurelville, Ohio 43135

Dear Mayor and Council:

On December 9, 2010, I conducted an inspection of the Village of Laurelville wastewater treatment plant (WWTP). The purpose of the inspection was to determine the facility's compliance status with the terms and conditions of NPDES permit number 0PA00013\*FD. A copy of the inspection report is attached.

If there are any questions, please call me at (740) 380-5268.

Sincerely,



Jack Knapp  
District Representative  
Division of Surface Water

JK/dh

Enclosure

c: Joe King, Operator

**NPDES  
Compliance Inspection Report**

**A. NATIONAL DATA SYSTEM CODING**

Permit No.	NPDES No.	Date	Inspection Type	Inspector	Facility Type
OPA00013*FD	OH0050784	December 9, 2010	C	S	1

**B. FACILITY DATA**

Name and Location of Facility Inspected	Entry Time	Permit Effective Date
Laurelville WWTP 16111 Creamery Hill Road Laurelville, Ohio 43135	11:45 a.m.	August 1, 2006
	Exit Time	Permit Expiration Date
	12:15 p.m.	July 31, 2011

Name(s) and Title(s) of On-Site Representative(s)	Phone Number(s)
Joe King, Operator	(740) 642-5769
Name, Address and Title of Responsible Official	Phone Number
Mayor Village of Laurelville P.O. Box 393 Laurelville, Ohio 43135	(740) 332-9101

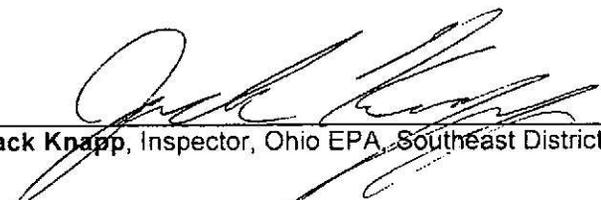
**C. AREAS EVALUATED DURING INSPECTION**

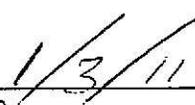
<input checked="" type="checkbox"/> S Permit	<input checked="" type="checkbox"/> S** Flow Measurement	<input type="checkbox"/> N/A Pretreatment
<input checked="" type="checkbox"/> S Records/Reports	<input checked="" type="checkbox"/> S* Laboratory	<input type="checkbox"/> N/A Compliance Schedules
<input checked="" type="checkbox"/> S Operations & Maintenance	<input checked="" type="checkbox"/> S Effluent/Receiving Waters	<input checked="" type="checkbox"/> S Self-Monitoring Program
<input checked="" type="checkbox"/> S Facility Site Review	<input checked="" type="checkbox"/> S Sludge Storage/Disposal	<input type="checkbox"/> Other
<input checked="" type="checkbox"/> S Collection System		

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)

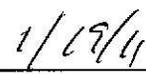
**D. SUMMARY OF FINDINGS/COMMENTS (attach additional sheets if necessary)**

See attached letter.  
\*Metals and NH3 is done at the Circleville WWTP.  
\*\*Flow meter out for repair.

  
\_\_\_\_\_  
Jack Knapp, Inspector, Ohio EPA, Southeast District Office

  
\_\_\_\_\_  
Date 1/3/11

  
\_\_\_\_\_  
Timothy M. Campbell, Reviewer, Ohio EPA, Southeast District Office

  
\_\_\_\_\_  
Date 1/19/11

# General Lab Criteria

Facility: Laurelville WWTP

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Balance</b>				<b>A</b>
• Standard Weights	• Either NIST Class s or ASTM/ANSI Class 1 weights <sup>1,2</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Calibration Frequency/ Documentation	• Calibration verification required at least once each day the balance is used <sup>3</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Cleanliness, air movement, vibration	• Cleanliness of balance is a must and air movement and vibration needs to be kept to a minimum <sup>1</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Service and recalibrate annually (manufacturer representative or comparable) <sup>1</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Must be able to measure to 0.1 grams <sup>4</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Instrument manual available	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book maintained <sup>6</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:				

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Drying Oven (Suspended Solids)</b>				<b>A</b>
• Temperature Recordkeeping	• Temperature recorded with each use <sup>4</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book maintained <sup>6</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Calibration Frequency/ Documentation	• Thermometer calibrated annually with NIST traceable thermometer <sup>1,2</sup> . Correction factor posted on thermometer/equipment <sup>1</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Thermometer temperature in 0.1°C increments <sup>5</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Acceptable temperature range is 103° – 105°F <sup>4</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Instrument manual available	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:				

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>pH Meter</b>				<b>A</b>
• Calibration Frequency/ Documentation	• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples) <sup>3</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book maintained <sup>9</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Minimum of 2 point calibration	• Calibration per manufacturer specification and calibration buffers must bracket anticipated result <sup>7</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Slope Documentation/ Acceptability	• Slope acceptable range indicated on benchsheet <sup>2</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Buffer Expiration Date	• Buffers must not be expired	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Instrument manual available	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Teflon covered magnetic stirrer or equivalent for mixing <sup>8</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:				

## General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?	Rating
<b>Dissolved Oxygen Meter</b>			
• Calibration Method	• Air or known DO calibration method <sup>10</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>A</b>
	• Calibration per manufacturer specification <sup>10</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
• Calibration Frequency/ Documentation	• Logbook maintained <sup>9</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Calibration verification required at least once each day the meter is used. <sup>3</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
• Other	• Small to no bubble present under membrane (must be smaller than the lead in number 2 pencil) <sup>11</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Instrument manual available	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Comments:			

Criteria	Standard Methods Requirement	Acceptable?	Rating
<b>Incubator (CBOD/E-Coli)</b>			
• Temperature Recordkeeping	• Temperature checked/recorded twice daily for each shelf in use <sup>1</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>A</b>
	• Acceptable temperature range (CBOD) is 20°C ±1.0° <sup>12</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Acceptable temperature range (E-Coli) is 35°C ±0.5° <sup>22</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Logbook maintained <sup>9</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
• Temperature Calibration/ Documentation	• Thermometer calibrated annually with NIST traceable thermometer <sup>1,2</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Temperature correction information posted on incubator <sup>1</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
• E-Coli can use multiple tubes (five 20 ml or ten 10 mg), or mfg's multi-well tray	• E-coli Ultraviolet lamp (365 nm wave length, 6 W bulb) <sup>23</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Other	• Instrument manual available	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Temperature Log (thermometer reads to 0.1 Celsius) <sup>5</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Comments:			

Criteria	Standard Methods Requirement	Acceptable?	Rating
<b>Refrigerator</b>			
• Temperature Recordkeeping	• Temperature Log (thermometer reads to 0.1 Celsius) <sup>5</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>A</b>
• Temperature Calibration/ Documentation	• Thermometer calibrated annually with NIST traceable thermometer <sup>1,2</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
• Other	• Thermometer held in water bath <sup>1</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Refrigerator temperature ±6° Celsius <sup>13</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Do not store volatile solvents, food, or beverages <sup>14</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Comments:			

Criteria	Standard Methods Requirement	Acceptable?	Rating
<b>Chlorine Meter</b>			
• Calibration Frequency/ Documentation	• pH/millivolt meter read to 0.1 mV <sup>15</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples) <sup>3</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Calibration Method	• Calibration using three iodate solutions 0.2, 1.0, 5.0 milliliters or calibration per manufacturer specification <sup>16</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Standards used for calibration not expired	<input type="checkbox"/> Yes <input type="checkbox"/> No	

## General Lab Criteria

<ul style="list-style-type: none"> <li>• Slope Documentation/ Acceptability</li> </ul>	<ul style="list-style-type: none"> <li>• Calibration curve (acceptable slope)</li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Other</li> </ul>	<ul style="list-style-type: none"> <li>• Electrode free of deposits and foreign material</li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Log book being maintained<sup>9</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Instrument manual available</li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments: N/A				

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Ammonia Meter</b>		<b>Acceptable?</b>		<b>A</b>
<ul style="list-style-type: none"> <li>• Calibration Frequency/ Documentation</li> </ul>	<ul style="list-style-type: none"> <li>• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples)<sup>3</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Log book being maintained<sup>9</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Slope Acceptability</li> </ul>	<ul style="list-style-type: none"> <li>• Verify calibration slope is acceptable (per mfg. spec.)</li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Calibration Method</li> </ul>	<ul style="list-style-type: none"> <li>• Standards used for calibration (3 ammonia solutions of 10 mg/l, 1 mg/l, and 0.1 mg/l) or per mfg. spec.<sup>17</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Standards used for calibration not expired</li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Other</li> </ul>	<ul style="list-style-type: none"> <li>• Electrode free of deposits and foreign material</li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Teflon covered magnetic stirrer or equivalent for mixing<sup>18</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Instrument manual available</li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments: Circleville WWTP				

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Sample Collection/Handling</b>		<b>Acceptable?</b>		<b>A</b>
<ul style="list-style-type: none"> <li>• Sample Labeling</li> </ul>	<ul style="list-style-type: none"> <li>• Samples container labeled (description, date, time, preservative added, initialed)<sup>19</sup></li> </ul>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Chain of Custody</li> </ul>	<ul style="list-style-type: none"> <li>• Chain of custody (description, date, time, signature)<sup>19</sup></li> </ul>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Other</li> </ul>	<ul style="list-style-type: none"> <li>• Composite samples refrigerated during sample collection<sup>14</sup></li> </ul>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Equipment blanks utilized<sup>14</sup></li> </ul>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• SOP for cleaning of sampling equipment</li> </ul>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Log book being maintained<sup>9</sup></li> </ul>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
Comments:				

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Desiccator</b>		<b>Acceptable?</b>		<b>A</b>
<ul style="list-style-type: none"> <li>• General Criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Properly working seals</li> </ul>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Desiccant fresh (blue color)</li> </ul>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Documentation</li> </ul>	<ul style="list-style-type: none"> <li>• Log book being maintained<sup>9</sup></li> </ul>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:				

## General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?	Rating
<b>Bench Sheets</b>			
<ul style="list-style-type: none"> <li>• General Criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Date(s)<sup>2</sup></li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>A</b>
	<ul style="list-style-type: none"> <li>• Analyst initials<sup>2</sup></li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Blue or black ink pen<sup>2</sup></li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Calibration information<sup>2</sup></li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Equations, calculations, units for all measurements, notations, and results present<sup>2</sup></li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Corrections, single line through, initialed and dated<sup>2</sup></li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Comments:			

Criteria	Standard Methods Requirement	Acceptable?	Rating
<b>Hot Water Bath (Fecal Coliform/E. Coli)</b>			
<ul style="list-style-type: none"> <li>• Temperature Recordkeeping</li> </ul>	<ul style="list-style-type: none"> <li>• Temperature Log (thermometer reads 0.2° C)<sup>21</sup></li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>A</b>
	<ul style="list-style-type: none"> <li>• Incubator temperature 44.5° C ±0.2°<sup>21/24</sup></li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Temperature Calibration/ Documentation</li> </ul>	<ul style="list-style-type: none"> <li>• Thermometer calibrated annually with NIST traceable thermometer<sup>1,2</sup></li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Log book being maintained<sup>9</sup></li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Water Level</li> </ul>	<ul style="list-style-type: none"> <li>• Thermometer total immersion or partial (line on thermometer to ID immersion depth)<sup>1,5</sup></li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Comments:			

Criteria	Standard Methods Requirement	Acceptable?	Rating
<b>Autoclaves/Steam Sterilizers</b>			
<ul style="list-style-type: none"> <li>• All apparatus utilized is adequately sterilized before use</li> </ul>	<ul style="list-style-type: none"> <li>• Sterilizing temperature 121° C<sup>25</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<b>A</b>
	<ul style="list-style-type: none"> <li>• 10 to 30 minutes time based on material being sterilized<sup>26</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Documentation</li> </ul>	<ul style="list-style-type: none"> <li>• Verify the autoclave temperature weekly by using a maximum registering thermometer (MRT) to confirm that 121°C has been reached as measured in the exhaust<sup>1</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Date, contents, sterilization time and temperature, total time in autoclave, and analyst's initials should be recorded each time the autoclave is used<sup>1</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Temperature Calibration/ Documentation</li> </ul>	<ul style="list-style-type: none"> <li>• Thermometer calibrated annually with NIST traceable thermometer<sup>1,2</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Log book being maintained<sup>9</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Performance Checks</li> </ul>	<ul style="list-style-type: none"> <li>• Test monthly for efficacy using a biological such as commercially available <i>Geobacillus stearothermophilus</i> in spore strips, suspensions, or capsules<sup>1</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Comments: N/A			

## General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Final Effluent Temperature Monitoring</b>		<b>Acceptable?</b>		<b>A</b>
<ul style="list-style-type: none"> <li>• General Criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Thermometer calibrated annually with NIST traceable thermometer<sup>1,2</sup></li> </ul>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Thermometer reads in increments of at least 0.1°C<sup>5</sup></li> </ul>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Log book being maintained<sup>2</sup></li> </ul>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:				

<b>Number of Criteria Rated:</b>	<b>Acceptable</b>	11
	<b>Marginal</b>	
	<b>Unacceptable</b>	
<b>Total Number of Areas Rated</b>		11

<b>Acceptable Ratings</b> – No action required (recommend SOP's written or updated, perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, written response not required).	
<b>Marginal Ratings</b> – Improvements required, written response required (recommend SOP's be written or updated, recommend they perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, require deficiencies to be addressed in written response).	
<b>Unsatisfactory Rating</b> – Improvements required, written response required, NOV issued (recommend SOP's be written or updated, recommend they perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, require deficiencies to be addressed in written response to NOV).	
Consider recommending PAI Audit from DES when:	<ul style="list-style-type: none"> <li>&gt;60% of ratings are Marginal</li> <li>&gt;45% of ratings are a combination of Marginal or Unacceptable</li> <li>&gt;30% of ratings are Unacceptable</li> </ul>

# General Lab Criteria

## Notation of Referenced Method

1	Method 9020-B, Item 4	14	Method 1060A, Item 1
2	Method 1020-A, Item 1	15	Method 4500-CI I, Item 2
3	Method 1020-B, Item 10	16	Method 4500-CI I, Item 4
4	Method 2540-B, Item 2	17	Method 4500-NH3 D, Item 4
5	Method 2550-B, Item 1	18	Method 4500-NH3 D, Item 2
6	Method 1020-B, Item 1	19	Method 1060-B, Item 2
7	Method 4500-H B, Item 4	20	Method 1060-B, Item 1
8	Method 4500-H B, Item 2	21	Method 9222D, Item 1
9	Method 1020-B, Item 2	22	Method 9223 B, Item 2
10	Method 4500-O B, Item 3	23	Method 9223 B, Item 3
11	Method 4500-O G, Item 3	24	Method 1603, Item 2
12	Method 5210-B, Item 5	25	Method 9030-B, Item 3
13	CFR 136.3, Table II	26	Method 9020 B, Table IV

**Equipment Logbook Content** – All maintenance performed on a piece of equipment should be documented in the logbook. This should include parts replacement and routine maintenance activities. Entries should include date, maintenance performed and initials of person making entry.

Preservation and Holding Times						
Parameter	Container	Min. Sample Size (mL)	Sample Type	Preservation	Maximum Storage Time	
					Recommended	Regulatory
BOD / CBOD	P, G	1000	G, C	Refrigerate $\leq 6^{\circ}\text{C}$	6h	48h
TSS	P, G	200	G, C	Refrigerate $\leq 6^{\circ}\text{C}$	7 d	7 d
pH	P, G	50	G	Analyze immediately	0.25h	0.25 h
NH3-N	P, G	500	G, C	Analyze as soon as possible or add $\text{H}_2\text{SO}_4$ to pH <2, Refrigerate $\leq 6^{\circ}\text{C}$	7 d	28 d
TRC	P, G	500	G	Analyze immediately	0.25h	0.25 h
DO (electrode)	G, BOD Bottle	300	G	Analyze immediately	0.25h	0.25 h
Temperature	P, G	--	G	Analyze immediately	0.25h	0.25 h
Metals, general	P, G	1000	G, C	For dissolved filter immediately and add $\text{HNO}_3$ to pH <2	6 months	6 months
Purgeables by purge and trap	G (PTFE lined lid)	40 (X2)	G	HCl to pH <2, Refrigerate $\leq 6^{\circ}\text{C}$	7 d	14 d
Base/Neutrals and acids	G (solvent rinsed or baked)	1000	G, C	Refrigerate $\leq 6^{\circ}\text{C}$	7 d	7 days until extraction 40 days after extraction
Pesticides	G (PTFE lined lid)	1000	C	Refrigerate $\leq 6^{\circ}\text{C}$	7 d	7 days until extraction 40 days after extraction
Fecal Coliform / E-Coli	G, P (Sterilized)	100	G	Refrigerate $\leq 10^{\circ}\text{C}$ If chlorine present, add sodium thiosulfate tablet	6 hrs transport. Start analysis within 2 hrs of receipt in lab.	
Oil and Grease	G	1000	G	HCl or $\text{H}_2\text{SO}_4$ to pH <2, Refrigerate $\leq 6^{\circ}\text{C}$	28 d	28 d

## General Lab Criteria

Approved Standard Methods	
CBOD / BOD 5 Day	Std Methods 5210-B
Ammonia, Selective Electrode Method	Std Methods 4500-NH3 D
Total Residual Chlorine, DPD Colorimetric Method	Std Methods 4500-Cl G
Total Suspended Solids, Dried at 103-105°C	Std Methods 2540-D
Dissolved Oxygen, Membrane Electrode Method	Std Methods 4500-O G
pH, Electrometric Method	Std Methods 4500-H+ B
Fecal Coliform, Membrane Filter Procedure	Std Methods 9222D
Escherichia Coli, Enzyme Substrate Test	Std Method 9223B
Escherichia Coli Membrane Filtration Procedure	EPA Method 1603
Oil and Grease	USEPA 1664A or Std Methods 5520B
Metals, general	USEPA 200, Std Methods 3111B or C, or 3120B
Volatiles (Purgeables by purge and trap)	USEPA 6210, Std Methods 624
Semi-Volatiles (Base/Neutrals and acids)	USEPA 6410, Std Methods 625
Pesticides	USEPA 6410 and 6630, Std Methods 608