



Environmental  
Protection Agency

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

Re: Hardin County  
Ada WWTP  
NPDES Permit

June 10, 2011

Mayor and Council  
Village of Ada  
P.O. Box 292  
Ada, Ohio 45810

Dear Mayor and Council:

On May 25, 2011, National Pollutant Discharge Elimination System (NPDES) permit compliance inspections were conducted at the Ada Wastewater Treatment and Water Treatment Plants. Mr. Phil Epley was present and provided information on operation and maintenance at each plant. Our inspection findings are as follows:

#### **Wastewater Treatment Plant**

During our visit, all major treatment units were in operation. The final effluent discharging to Grass Run Creek was clear. However, no samples were taken to verify compliance with permit limits.

A Review of your discharge monitoring reports indicates that the Village is in Significant Non-Compliance with NPDES permit limits for ammonia nitrogen, total suspended solids and CBOD. Actions must be taken to return to compliance or we will have no choice but to recommend escalated enforcement action.

The minimum staffing requirements outlined in your NPDES permit are now in effect. The Village must document that a Class II or higher Certified Operator is present at the WWTP five days per week for a minimum of 20 hours per week.

Please be reminded that the Wastewater Treatment Plant Performance Evaluation required by your NPDES Permit Schedule of Compliance is due by August 1, 2011.

#### **Water Treatment Plant**

A brief inspection of the water treatment plant was also conducted. During our visit, there was no discharge. The east lagoon was being used. No effluent violations have been reported since our last inspection.

Mayor & Council  
June 10, 2011  
Page Two

Our completed inspection reports are enclosed for your records. If you have any questions, please call Tom Poffenbarger at (419)373-3008.

Yours truly,



Elizabeth A. Wick, P.E.  
Water Quality Engineer/Unit Supervisor  
Division of Surface Water

TP/cs

Enclosures

pc: Mr. Philip Epley, Village of Ada w/enclosures  
~~BSW-NWDO Files-(2)-w/enclosures~~



State of Ohio Environmental Protection Agency  
Northwest District Office

NPDES Compliance Inspection Report

Section A: National Data System Coding					
Permit #	NPDES#	Month/Day/Year	Inspection Type	Inspector	Facility Type
2IW00320	OH0102458	5/25/11	C	S	2

Section B: Facility Data		
Name and Location of Facility Inspected	Entry Time	Permit Effective Date
Village of Ada Water Treatment Plant 110 Simon Court Ada, Hardin County	10:50 AM	May 1, 2010
	Exit Time	Permit Expiration Date
	11:10 AM	April 30, 2015
Name(s) and Title(s) of On-Site Representatives		Phone Number(s)
Mr. Philip Epley, Superintendent		419-634-4045
Name, Address and Title of Responsible Official		Phone Number
Mayor and Council Village of Ada P.O. Box 292 Ada, Ohio 45810		419-634-4045

Section C: Areas Evaluated During Inspection					
(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)					
S	Permit	N	Flow Measurement	N	Pretreatment
S	Records/Reports	N	Laboratory	N	Compliance Schedule
S	Operations & Maintenance	S	Effluent/Receiving Waters	S	Self-Monitoring Program
S	Facility Site Review	S	Sludge Storage/Disposal	N	Other
N	Collection System				

Section D: Summary of Findings (Attach additional sheets if necessary)

There was no discharge during the inspection.

The east lagoon was in use.

No Violations have been reported since our last inspection.

Inspector	Reviewer
 Thomas Poffenberger, P.E.      Date 6/3/11 District Engineer Division of Surface Water Northwest District Office	 Elizabeth A. Wick, P.E.      Date 6/8/11 Water Quality Engineer Division of Surface Water Northwest District Office



State of Ohio Environmental Protection Agency  
Northwest District Office

NPDES Compliance Inspection Report

Section A: National Data System Coding					
Permit #	NPDES#	Month/Day/Year	Inspection Type	Inspector	Facility Type
2PB00050	OH0020583	5/25/11	C	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	Entry Time	Permit Effective Date
Village of Ada WWTP 3623 County Road 44 Ada, Hardin County, Ohio	10:00 AM	August 1, 2010
	Exit Time	Permit Expiration Date
	10:50 AM	July 31, 2015
Name(s) and Title(s) of On-Site Representatives		Phone Number(s)
Mr. Phil Epley, Superintendent		419-634-4045
Name, Address and Title of Responsible Official		Phone Number
Mayor & Council Village of Ada P.O. Box 292 Ada, Ohio 45810		419-634-4045

Section C: Areas Evaluated During Inspection					
(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)					
S	Permit	S	Flow Measurement	N	Pretreatment
M	Records/Reports	S	Laboratory	N	Compliance Schedule
M	Operations & Maintenance	S	Effluent/Receiving Waters	S	Self-Monitoring Program
S	Facility Site Review	S	Sludge Storage/Disposal	N	Other
N	Collection System				

**Section D: Summary of Findings (Attach additional sheets if necessary)**

Discharge monitoring reports show the Village is in Significant Non-Compliance with ammonia nitrogen, total suspended solids and CBOD NPDES permit limits.

Minimum staffing requirements are now in effect. Village must **document** that a Class II or higher Certified Operator is present at the WWTP five days a week for a minimum of 20 hours per week.

Plant performance evaluation is due by August 1, 2011.

Inspector	Reviewer
<i>Thomas Poffenbarger</i> 6/3/11	<i>Elizabeth A. Wick</i> 6/8/11
Thomas Poffenbarger, P.E. Division of Surface Water Northwest District Office	Elizabeth A. Wick, P.E. Water Quality Engineer Division of Surface Water Northwest District Office

Sections E thru K: Complete on all inspections as appropriate  
Y – Yes, N – No, N/A – Not Applicable, N/E – Not Evaluated

**Section E: Permit Verification**

Inspection observations verify the permit

- (a) Correct name and mailing address of permittee ..... Y
- (b) Correct name and location of receiving waters ..... Y
- (c) Product(s) and production rates conform with permit application (Industries) ..... N/A
- (d) Flows and loadings conform with NPDES permit ..... Y
- (e) Treatment processes are as described in permit application... Y
- (f) New treatment process(es) added since last inspection ..... N
- (g) Notification given to State of new, different or increased discharges ..... N/A
- (h) All discharges are permitted ..... Y
- (i) Number and location of discharge points are as described in permit ..... Y

Comments/Status:

**Section F: Compliance**

- (a) Any significant violations since the last inspection ..... Y
- (b) Permittee is taking actions to resolve violations ..... Y
- (c) Permittee has a compliance schedule ..... Y
- (d) Compliance schedule contained in NPDES Permit
- (e) Permittee is meeting compliance schedule ..... Y

Comments/Status:

(a) Facility is in significant non-compliance for nitrogen, ammonia, total suspended solids and CBOD.

(b) Plant performance study is complete and will likely recommend plant improvements.

(d) E. coli limits are being met. Plant performance evaluation is due August 1, 2011.

**Section G: Operation & Maintenance**

**Treatment Works:**

Treatment facility properly operated and maintained

- (a) Standby power available.....generator  or dual feed ..... Y
- (b) Adequate alarm system available for power or equipment failures.. Y
- (c) All treatment units in service other than backup units..... Y
- (d) Wastewater Treatment Works classification (OAC 3745-7)..... II
- (e) Operator of Record holds unexpired license of class required by permit..... Y  
 Class: III
- (f) Copy of certificate of Operator of Record displayed on-site..... Y
- (g) Minimum operator staffing requirements fulfilled (OAC 3745-7)... N
- (h) Routine and preventative maintenance scheduled/performed... Y
- (i) Any major equipment breakdown since last inspection..... Y
- (j) Operation and maintenance manual provided and maintained..... Y
- (k) Any plant bypasses since last inspection..... N
- (l) Regulatory agency notified of bypasses..... N/A  
 On MORs  and/or Spill Hotline (1-800-282-9378)
- (m) Any hydraulic and/or organic overloads since last inspection..... Y

**Record Keeping:**

- (a) Log book provided..... Y
- (b) Format of log book (i.e. computer log, hard bound book)  

3 Ring Binder
---------------
- (c) Log book(s) kept onsite (in an area protected from weather)..... Y
- (d) Log book contains the following:
  - I. Identification of treatment works..... Y
  - II. Date/times of arrival/departure for Operator of Record and any other operator required by OAC 3745-7..... N
  - III. Daily record of operation and maintenance activities (including preventative maintenance, repairs and request for repairs)..... Y
  - IV. Laboratory results (unless documented on bench sheets)... Y
  - V. Identification of person making log entries..... Y
- (d) Has the operator of record submitted written notification to the permittee, Ohio EPA and (if applicable) any local environmental agencies when a collection system overflow, treatment plant bypass or effluent limit violation has occurred..... Y

**Section G: Operation & Maintenance (con't)**

**Collection System:**

- (a) Percent combined system: 0%
- (b) Any collection system overflows since last inspection..... Y  
(CSO  and/or SSO )
- (c) Regulatory agency notified of overflows (SSOs)..... Y
- (d) CSO O&M plan provided and implemented..... N/A
- (e) CSOs monitored and reported in accordance with permit..... N/A
- (f) Portable pumps used to relieve system..... N
- (g) Lift station alarms provided and maintained..... Y
- (h) Are lift stations equipped with permanent standby power  
or equivalent..... Y
- (i) Is there an inflow/infiltration problem (separate sewer system),  
or were there any major repairs to collection system since  
last inspection..... Y
- (j) Any complaints received since last inspection of basement flooding N
- (k) Are any portions of the sewer system at or near capacity..... N

**Comments/Status:**

(b) SSO occurred in February 2011 during snowmelt and rain.

**Section I: Self-Monitoring Program (cont)**

**Sampling:**

- (a) Sampling location(s) are as specified by permit..... Y
- (b) Parameters and sampling frequency agree with permit..... Y
- (c) Permittee uses required sampling method..... Y  
(see GLC page 5 and 8)
- (d) Monitoring records (i.e., flow, pH, DO) maintained for a minimum of three years including all original strip chart recordings (i.e, continuous monitoring instrumentation, calibration and maintenance records)..... Y

**Laboratory:**

*General*

- (a) Do you have written Standard Operating Procedures (SOP's) for all analysis performed onsite? *SOP's are provided for some parameters*..... Y
- (b) Do SOP's include the following if applicable:
  - Title
  - Scope and Application
  - Summary
  - Sample Handling and Preservation
  - Interferences
  - Apparatus and Materials
  - Reagents
  - Procedure
  - Calculations
  - Quality Control
  - Maintenance
  - Corrective Action
  - Reference (Parent Method)

Note: SOP's are required per Standard Methods 1020A and states "Standard operating procedures are to be used in the laboratory in sufficient detail that a competent analyst unfamiliar with the method can conduct a reliable review and/or obtain acceptable results."

- (c) EPA approved analytical testing procedures used for all analysis (40 CFR 136.3, see GLC page 8). Y
- (d) If alternate analytical procedures are used, proper approval has been obtained..... N/A
- (e) Analyses being performed more frequently than required by permit. N
- (f) If (e) is yes, are results in permittee's self-monitoring report..... N/A

*Quality Control/Quality Assurance*

- (g) Quality assurance manual provided and maintained..... Y
- (h) Satisfactory calibration and maintenance of instruments/equipment. Y  
(see score from GLC page 7)
- (i) Results of latest USEPA quality assurance performance sampling program:  Satisfactory  Marginal  Unsatisfactory  
Date:

- (j) Commercial laboratory used..... Y  
 Parameters analyzed by commercial lab: Phosphorus, fecal coliform, metals, nitrate, nitrite, e. coli

Lab name: Masi

**Comments/Status:**

**Section J: Effluent/Receiving Water Observations**

Outfall Number	Outfall sign in place?	Oil sheen	Grease	Turbidity	Foam	Solids	Color	Other
001	Yes	none	none	none	slight	none	clear	

**Comments/Status:**

**Section K: Multimedia Observations**

- (a) Are there indications of sloppy housekeeping or poor maintenance in work and storage areas or laboratories..... N
- (b) Do you notice staining or discoloration of soils, pavement or floors.. N
- (c) Do you notice distressed (unhealthy, discolored, dead) vegetation.. N
- (d) Do you see unidentified dark smoke or dust clouds coming from sources other than smokestacks..... N
- (e) Do you notice any unusual odors or strong chemical smells..... N
- (f) Do you see any open or unmarked drums, unsecured liquids, or damaged containment facilities..... N

If any of the above are observed, ask the following questions:

- (1) What is the cause of the condition?
- (2) Is the observed condition or source a waste product?
- (3) Where is the suspected contaminant normally disposed?
- (4) Is this disposal permitted?
- (5) How long has the condition existed and when did it begin?

F. GUIDE - VISUAL OBSERVATION - UNIT PROCESS

RATING CODES: S = Satisfactory; U = Unsatisfactory; M = Marginal; IN = In Operation; OUT = Out of Operation

CONDITION OR APPEARANCE		RATING	COMMENTS
General	Grounds	S	
	Buildings	S	
	Potable Water Supply Protection	--	
	Safety Features	S	Fence surrounding plant
	Bypasses	--	
	Storm Water Overflows	--	
	Alternate Power Source	S	Generator
Preliminary	Maintenance of Collection Systems	S	
	Pump Station	IN	3 Units
	Ventilation	S	
	Bar Screen	--	
	Disposal of Screenings	--	
	Comminutor	IN	Muffin Monster
	Grit Chamber	IN	
	Disposal of Grit	S	Landfilled
Primary	Settling Tanks	IN	2 Units floating solids
	Scum Removal	IN	Dewatered and landfilled
	Sludge Removal	IN	To Digester
	Effluent	M	North - light brown color / south - dark brown color
Sludge Disposal	Digesters	IN	Anaerobic
	Temperature and pH	S	
	Gas Production	IN	Used in boilers
	Heating Equipment	IN	
	Sludge Pumps	IN	6 Units
	Drying Beds	OUT	4 Beds - available but not used
	Belt Filter Press	--	
	Centrifuge	--	
	Disposal of Sludge	S	Land Application
Sludge Storage Tank	IN	1/2 Full	
Other	Flow Meter and Recorder	IN	
	Records	S	
	Lab Controls	S	
	Chemical Treatment	IN	polymer
Secondary - Tertiary	Aeration Tanks	IN	2 Units - Dark brown color
	Clarifiers	IN	2 Units
	Nitrification Towers	IN	2 Units
Disinfection	Effluent	S	clear
	Disinfection System	IN	Chlorine Gas
	Effective Dosage	S	
	Contact Time	S	
	Contact Tank	IN	
	Dechlorination	IN	Sodium Bisulfite

# ● General Lab Criteria ●

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Balance</b>				
• Standard Weights	• Either NIST Class S or ASTM/ANSI Class 1 weights <sup>1,2</sup>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<b>A</b>
• 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>2</sup>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

Comments:

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Drying Oven (Suspended Solids)</b>				
• Temperature Recordkeeping	• Temperature recorded with each use <sup>4</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<b>A</b>
	• Log book maintained <sup>2</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 type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
• Other	• Thermometer temperature in 0.5° 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:

# ● General Lab Criteria ●

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>pH Meter</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>• Logbook maintained<sup>2</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Minimum of 2 point calibration</li> </ul>	<ul style="list-style-type: none"> <li>• Calibration per manufacturer specification and calibration buffers must bracket anticipated result<sup>7</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Slope Documentation / Acceptability</li> </ul>	<ul style="list-style-type: none"> <li>• Slope acceptable range indicated on benchsheet<sup>2</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Buffer Expiration Date</li> </ul>	<ul style="list-style-type: none"> <li>• Buffers must not be 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>• Instrument manual available</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>8</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments:

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Dissolved Oxygen Meter</b>				
<ul style="list-style-type: none"> <li>• Calibration Method</li> </ul>	<ul style="list-style-type: none"> <li>• Air or known DO calibration method<sup>10</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Calibration per manufacturer specification<sup>10</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Calibration Frequency / Documentation</li> </ul>	<ul style="list-style-type: none"> <li>• Logbook maintained<sup>2</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Calibration verification required at least once each day the meter is used.<sup>3</sup></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>• Small to no bubble present under membrane (must be smaller than the lead in number 2 pencil)<sup>11</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:

# ● General Lab Criteria ●

Criteria	Standard Methods Requirement		Rating
Incubator (CBOD/E-Coli)	Acceptable?		
• Temperature Recordkeeping	• Temperature checked / recorded twice daily for each shelf in use <sup>1</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Acceptable temperature range (CBOD) is 20° C ±1.0 <sup>o12</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Acceptable temperature range (E-Coli) is 35° C ±0.5 <sup>o22</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Logbook maintained <sup>2</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer <sup>1,2</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Temperature correction information posted on incubator <sup>1</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• E-Coli can use multiple tubes (five 20 ml or ten 10 ml), 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 type="checkbox"/> Yes <input type="checkbox"/> No	
	• Temperature Log (thermometer reads to 0.5 Celsius). <sup>1</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Comments:

Criteria	Standard Methods Requirement		Rating
Refrigerator	Acceptable?		
• Temperature Recordkeeping	• Temperature Log (thermometer reads to 0.5 Celsius). <sup>5</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer <sup>1,2</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Other	• Thermometer held in water bath. <sup>1</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Refrigerator temperature ≤6° Celsius. <sup>13</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Do not store volatile solvents, food, or beverages. <sup>14</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Comments:

# ● General Lab Criteria ●

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	
• Slope Documentation / Acceptability	• Calibration curve (acceptable slope)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Electrode free of deposits and foreign material	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book being maintained. <sup>2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Instrument manual available	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:				

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Ammonia Meter</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 type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book being maintained <sup>2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Slope acceptability	• Verify calibration slope is acceptable (per mfg. spec.).	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Calibration Method	• 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>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Standards used for calibration not expired	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Electrode free of deposits and foreign material	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Teflon covered magnetic stirrer or equivalent for mixing <sup>18</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Instrument manual available	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:				

# ● General Lab Criteria ●

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Sample Collection/Handling</b>				
• Sample Labeling	• Samples container labeled (description, date, time, preservative added, initialed). <sup>19</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Chain of Custody	• Chain of custody (description, date, time, signature). <sup>19</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Composite samples refrigerated during sample collection <sup>14</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Equipment blanks utilized <sup>14</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• SOP for cleaning of sampling equipment	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Logbook being maintained <sup>2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments:

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Desiccator</b>				
• General criteria	• Properly working seals.	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<b>A</b>
	• Desiccant fresh (blue color)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Documentation	• Log book being maintained <sup>2</sup>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

Comments:

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Bench sheets</b>				
• General criteria	• Date(s) <sup>2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Analyst initials <sup>2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Blue or black ink pen <sup>2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Calibration information <sup>2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Equations, calculations, units for all measurements, notations, and results present <sup>2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Corrections, single line through, initialed and dated <sup>2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments:

# ● General Lab Criteria ●

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Hot Water Bath (Fecal Coliform/E. Coli)</b>				
• Temperature Recordkeeping	• Temperature Log (thermometer reads 0.2° C) <sup>21</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Incubator temperature 44.5° C ± 0.2° <sup>21/24</sup>			
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer <sup>1,2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book being maintained <sup>2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Water Level	• Thermometer total immersion or partial (line on thermometer to ID immersion depth) <sup>1,5</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:				
Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Autoclaves/Steam Sterilizers</b>				
• All apparatus utilized is adequately sterilized before use	• Sterilizing temperature 121° C <sup>25</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• 10 to 30 minutes time based on material being sterilized <sup>26</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Documentation	• 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>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• 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>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer <sup>1,2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book being maintained <sup>2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Performance Checks	• Test monthly for efficacy using a biological such as commercially available <i>Geobacillus stearothermophilus</i> in spore strips, suspensions, or capsules <sup>1</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:				

# ● General Lab Criteria ●

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Final Effluent Temperature Monitoring</b>		<b>Acceptable?</b>		
• General Criteria	• Thermometer calibrated annually with NIST traceable thermometer <sup>1,2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Thermometer reads in increments of at least 0.1° C <sup>5</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book being maintained <sup>2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:				
<b>Number of Criteria Rated:</b>				<b>3</b>
<b>Acceptable</b>				<b>0</b>
<b>Marginal</b>				<b>0</b>
<b>Unacceptable</b>				<b>0</b>
<b>Total Number of Areas Rated:</b>				<b>3</b>
<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:		>60% of ratings are Marginal >45% of ratings are a combination of Marginal or Unacceptable >30% of ratings are Unacceptable		

### Notation of Referenced Method

- |                            |                              |
|----------------------------|------------------------------|
| 1 Method 9020-B, Item 3    | 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-A, 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   |

# General Lab Criteria

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
NH <sub>3</sub> -N	P, G	500	G, C	Analyze as soon as possible or add H <sub>2</sub> SO <sub>4</sub> 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 HNO <sub>3</sub> 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	C, G	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 H <sub>2</sub> SO <sub>4</sub> to pH <2, Refrigerate $\leq 6^{\circ}\text{C}$	28 d	28 d

## Approved Standard Methods

CBOD / BOD 5 Day	Std Methods 5210-B
Ammonia, Selective Electrode Method	Std Methods 4500-NH <sub>3</sub> 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 Method 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