



**Environmental  
Protection Agency**

Ted Strickland, Governor  
Lee Fisher, Lt. Governor  
Chris Korleski, Director

Re: **Notice of Violation**  
Allen County  
Village of LaFayette  
NPDES Permit

September 22, 2010

Mayor and Council  
Village of LaFayette  
P. O. Box 7184  
LaFayette, Ohio 45854

Dear Mayor and Council:

On September 8, 2010, a National Pollutant Discharge Elimination System (NPDES) Permit Compliance Inspection was conducted at the LaFayette Wastewater Treatment Plant. Mr. Wes Hites and Mr. Jim Everhardt were present and provided information on operation and maintenance of the wastewater treatment plant. The inspection included an interview with completion of the enclosed inspection checklist, a brief review of laboratory controls/procedures and a tour of the plant.

During our visit, all major treatment units were in operation. Mr. Hites stated that the Village plans to replace the sand in the bottom of the sludge drying beds. The old sand must be hauled to a landfill for proper disposal. The stock pile of sludge which is located near the sludge drying beds must also be removed for proper disposal in a landfill. A review of your discharge monitoring reports indicates that the average flow from the plant was approximately 18,000 gallons per day (gpd), compared to the WWTP design flow of 100,000 gpd. Please calibrate the flow meter to verify the accuracy of the flow rate.

The final effluent discharging into Little Hog Creek was clear. However, no samples were collected to determine compliance with NPDES permit limits.

Record keeping and documentation at the facility need additional attention. Additional efforts should also be made in keeping an up to date log book for plant operations and maintenance, which contains at a minimum, the following information: identification of the sewerage system, or treatment works; date and times of arrival and departure for the operator of record, specific operation and maintenance activities that affect or have the potential to affect the quality or quantity of sewage received and/or effluent produced; results of tests performed and samples taken, unless documented on a laboratory sheet; performance of preventative maintenance and repairs or requests for repair of the equipment that affect or have the potential to affect the quality or quantity of sewage conveyed, effluent produced; and identification of the persons making entries.

Mayor and Council  
September 22, 2010  
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Your current NPDES permit has an expiration date of November 30, 2011. Effective with your next NPDES permit renewal, the Village will be required to document that the wastewater treatment plant is staffed by a Certified Operator for a minimum of three days per week for a minimum of 1.5 hours per week.

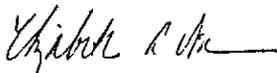
During our review of the laboratory, an unacceptable rating was achieved for the pH meter indicating that improvements are necessary. Please inform this office in writing of the actions that will be taken to address the deficiencies outlined in the General Lab Criteria portion of our inspection report. Standard operating procedures must be updated to include all information indicated on Page 6 of our inspection report.

As discussed during the inspection, the Village is considered to be in Significant Non-Compliance (SNC) with NPDES permit limits for fecal coliform and carbonaceous biochemical oxygen demand (CBOD). Actions must be taken to return this plant to compliance in order to avoid escalated enforcement action.

Please inform this office in writing, within 30 days, as to the reasons for the above referenced violations, as well as a description of the actions taken or proposed to prevent any further violations. Your response should include the dates, either actual or proposed, for completion of the actions.

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

Sincerely,



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

TP/llr

Enclosure

pc: Mr. Wes Hites, Operator w/enclosure  
(DSW-NWDO File w/enclosure )



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
2PA00049	OH0053155	9/8/2010	C	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	Entry Time	Permit Effective Date
Village of LaFayette WWTP Schick Drive LaFayette, Ohio 45854.	12:30 PM	December 1, 2006
	Exit Time 2:00 PM	Permit Expiration Date November 30, 2011
Name(s) and Title(s) of On-Site Representatives	Phone Number(s)	
Mr. Wes Hites, Operator. Mr. Jim Everhardt, Operator	419-230-9194 419-649-8801	
Name, Address and Title of Responsible Official	Phone Number	
Mayor and Council Village of LaFayette P.O. Box 7184 LaFayette, Ohio 45854	419-649-8801	

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

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

Final effluent discharge to Little Hog Creek was clear.

Facility is in Significant Non-Compliance for fecal coliform and CBOD.

Sludge stock pile must be removed.

Plant Operation/Laboratory records, quality assurance and quality control must be addressed.

Flow meter must be calibrated to verify flow records.

Inspector	Reviewer
<i>Thomas Poffenberger</i> 9/13/10	<i>Elizabeth A. Wick</i> 9/21/10
Thomas Poffenberger, P.E. Division of Surface Water Northwest District Office	Elizabeth A. Wick, P.E. Water Quality Engineer/Unit Supervisor Division of Surface Water

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..... Y
- (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..... N
- (d) Compliance schedule contained in
- (e) Permittee is meeting compliance schedule..... N/A

Comments/Status:

(a) 27 violations have been reported in the past year. Facility is in Significant Non-Compliance for CBOD and Fecal Coliform.

(b) Fecal coliform violations are believed to be caused by a leak in a chlorine line that is now repaired.

**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.. N
- (c) All treatment units in service other than backup units..... Y
- (d) Wastewater Treatment Works classification (OAC 3745-7)..... I
- (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/A
- (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..... Y
- (l) Regulatory agency notified of bypasses..... Y  
 On MORs  and/or Spill Hotline (1-800-282-9378)
- (m) Any hydraulic and/or organic overloads since last inspection..... N

**Record Keeping:**

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

Three 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)..... N
  - IV. Laboratory results (unless documented on bench sheets)... N
  - V. Identification of person making log entries..... N
- (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..... N  
(CSO  and/or SSO )
- (c) Regulatory agency notified of overflows (SSOs)..... N/A
- (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:

(g) Lift stations have audio/visual alarm.

**Section H: Sludge Management**

- (a) Sludge management plan (SMP)  
Submitted date:                      Approval #:                      Not submitted       N/A
- (b) Sludge management plan current..... N/A  
(c) Sludge adequately disposed..... N  
(Method: Stock piled on site)  
(d) If sludge is incinerated, where is ash disposed of  
(e) Is sludge disposal contracted..... N  
(Name:                      )  
(f) Has amount of sludge generated changed significantly since  
last inspection..... N  
(g) Adequate sludge storage provided at plant..... Y  
(h) Land application sites monitored and inspected per SMP..... N/A  
(i) Records kept in accordance with State and Federal law..... Y  
(j) Any complaints received in last year regarding sludge..... N  
(k) Is sludge adequately processed (digestion, pathogen control)..... Y

**Comments/Status:**

(c) No sludge has been removed from the plant site in the past ten years.

**Section I: Self-Monitoring Program**

**Flow Measurement:**

- (a) Primary flow measuring device operated and maintained..... Y  
Type of device: Ultrasonic & Parshall flume       Ultrasonic & Weir       Weir   
Calculated from influent       Other  (Specify:                      )
- (b) Calibration frequency adequate ..... N  
(Date of last calibration: 8/1/2008)  
(c) Secondary instruments operated and maintained..... Y  
(d) Flow measurement equipment adequate to handle full range  
of flows..... Y  
(e) Actual flow discharged is measured..... Y  
(f) Flow measuring equipment inspection frequency  
 Daily  Weekly  monthly  other

**Comments/Status:**

(a) Flow meter needs calibrated. DMR records indicate that the average daily flow for the past year was approximately 18,000 gallons per day, compared to the WWTP design flow of 100,000 gallons per day.

**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 ..... N
- (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. N  
(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: All except pH, D.O. temperature and flow.

Lab name: Alloway

**Comments/Status:**

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

Outfall Number	Outfall sign in place?	Oil sheen	Grease	Turbidity	Foam	Solids	Color	Other
001	No	none	none	Clear	None	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?

**Comments/Status:**

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 WWTP
	Bypasses	OUT	Plant bypass
	Storm Water Overflows		
	Alternate Power Source	S	Generator
Preliminary	Maintenance of Collection Systems		
	Pump Station	IN	
	Ventilation		
	Bar Screen	OUT	On comminutor bypass line
	Disposal of Screenings	S	Land filled
	Comminutor	IN	1 Unit
	Grit Chamber		
	Disposal of Grit		
Primary	Settling Tanks		
	Scum Removal		
	Sludge Removal		
	Effluent		
Sludge Disposal	Digesters	IN	One aerobic
	Temperature and pH		
	Gas Production		
	Heating Equipment		
	Sludge Pumps		
	Drying Beds	OUT	2 Beds, Plan to replace sand
	Belt Filter Press		
	Centrifuge		
Disposal of Sludge	U	Stored in a pile on site	
Other	Flow Meter and Recorder	IN	Ultrasonic / Parshall flume needs calibrated
	Records	M	
	Lab Controls	U	
	Chemical Treatment		
Secondary - Tertiary	Extended Aeration	IN	2 Tanks; Dark Brown Color
	Clarifiers	IN	2 Tanks; Solids accumulated on effluent weir and effluent trough
	Upward Flow Fixed Media Clarifiers	IN	4 Units, one out daily for cleaning
	Polishing Lagoon	OUT	No longer used
Disinfection	Effluent	S	Clear
	Disinfection System	IN	Sodium hypochlorite; Summer only
	Effective Dosage	S	
	Contact Time	S	
	Contact Tank	IN	Baffles being replaced
	Dechlorination	IN	Sodium Bisulfite; Summer only

# ● 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 type="checkbox"/> No	
• Calibration Frequency / Documentation	• Calibration verification required at least once each day the balance is used. <sup>3</sup>	<input 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 type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Service and recalibrate annually (manufacturer representative or comparable) <sup>1</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Must be able to measure to 0.1 grams <sup>4</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Instrument manual available	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book maintained <sup>6</sup>	<input type="checkbox"/> Yes	<input 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 type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book maintained <sup>6</sup>	<input 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 type="checkbox"/> No	
• Other	• Thermometer temperature in 0.1° C increments <sup>5</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Acceptable temperature range is 103° – 105° F <sup>4</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>pH 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 checked="" type="checkbox"/> No	<b>U</b>
		• Logbook maintained <sup>9</sup>	<input checked="" type="checkbox"/> Yes	
• 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 type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
• Buffer Expiration Date	• Buffers must not be expired	<input type="checkbox"/> Yes	<input checked="" 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: *Meter should be calibrated with each use over 12 hours past last use. Slope should be expressed as a percent. Both buffers expired in 2009.*

# ● General Lab Criteria ●

Criteria	Standard Methods Requirement		Rating
<b>Dissolved Oxygen Meter</b> <span style="float: right;">Acceptable?</span>			
• Calibration Method	• Air or known DO calibration method <sup>10</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Calibration per manufacturer specification <sup>10</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Calibration Frequency / Documentation	• Logbook maintained <sup>9</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Calibration verification required at least once each day the meter is used. <sup>3</sup>	<input 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 type="checkbox"/> Yes <input type="checkbox"/> No	
	• Instrument manual available	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Comments:

Criteria	Standard Methods Requirement		Rating
<b>Incubator (CBOD/E-Coli)</b> <span style="float: right;">Acceptable?</span>			
• 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>9</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 0.1 Celsius). <sup>5</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Comments:

Criteria	Standard Methods Requirement		Rating
<b>Refrigerator</b> <span style="float: right;">Acceptable?</span>			
• Temperature Recordkeeping	• Temperature Log (thermometer reads to 0.1 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>9</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>9</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:				

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	

# ● General Lab Criteria ●

	• SOP for cleaning of sampling equipment	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Logbook being maintained <sup>9</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 type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Desiccant fresh (blue color)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Documentation	• Log book being maintained <sup>9</sup>	<input type="checkbox"/> Yes	<input 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:

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>9</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	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

# ● General Lab Criteria ●

	has been reached as measured in the exhaust. <sup>1</sup>			
	<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	
• Temperature Calibration / Documentation	<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	
• Performance Checks	<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:

	Acceptable	0
<b>Number of Criteria Rated:</b>	Marginal	0
	Unacceptable	1
	<b>Total Number of Areas Rated</b>	1

**Acceptable Ratings** – 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).

**Marginal Ratings** – 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).

**Unsatisfactory Rating** - 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

# 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	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 $\text{H}_2\text{SO}_4$ to pH <2, Refrigerate $\leq 6^{\circ}\text{C}$	28 d	28 d

# General Lab Criteria

<b>Approved Standard Methods</b>	
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 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