



State of Ohio Environmental Protection Agency

Southeast District Office

2195 Front Street
Logan, Ohio 43138

TELE: (740) 385-8501 FAX: (740) 385-6490
www.epa.state.oh.us

Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director

August 9, 2010

Re: Ross County
Village of Frankfort WWTP
Compliance Inspection
Correspondence (PWW)

Mayor and Council
Village of Frankfort
P.O. Box 351
Frankfort, Ohio 45628

Dear Mayor and Council:

On July 27, 2010, I conducted a compliance evaluation inspection (CEI) at the Frankfort Wastewater Treatment Plant (WWTP). The purpose of the inspection was to determine compliance with the terms and conditions of National Pollutant Discharge Elimination System (NPDES) permit number 0PB00014*GD. Mr. Shawn Haynes, plant operator was present during my inspection.

Based on the findings of the inspection and the review of our records, I have the following comments:

1. At the time of my inspection, both the old and new contact stabilization tanks were in operation. The weirs in the new tank were found to be clean and the surface of the clarifier was free of any scum. The surface of the clarifier in the older tank was also found to be free of any scum or bulking sludge and the weirs contained little algae buildup.
2. The basket located at the head of the plant was found to be clean and well maintained as well as the bar screen in the primary headworks.
3. Inspection of the laboratory found the area to be clean and all daily activities to be well documented in the daily logbook. Detailed inspection results of the lab are attached on the lab inspection form with some minor deficiencies noted.

At the time of my inspection, the treatment plant was found to be well maintained and operated and the effluent was observed clear with no objectionable odors. Attached is a copy of my detailed inspection reports for the facility and the lab. Please provide written documentation within **21** days upon receipt as to when the noted lab deficiencies will be addressed. If you have any questions, please contact me at (740) 380-5416.

Sincerely,



Jake Greuey
District Representative
Division of Surface Water

JGG/jg

Enclosure

c: Shawn Haynes, Operator
Wayne Grigsby, Technical Supervisor

**NPDES
Compliance Inspection Report**

A. NATIONAL DATA SYSTEM CODING

Permit No.	NPDES No.	Date	Inspection Type	Inspector	Facility Type
OPB00014*HD	OH0021482	July 27, 2010	C	S	1

B. FACILITY DATA

Name & Location of Facility Inspected	Entry Time	Permit Effective Date
Village of Frankfort WWTP South Main Street Frankfort, Ohio	9:00 a.m.	February 1, 2010
	Exit Time	Permit Expiration Date
	10:45 a.m.	September 30, 2012

Name(s) & Title(s) of On-Site Representative(s)	Phone Number(s)
Shawn Haynes, Operator	(740) 998-5261
Name, Address, & Title of Responsible Official	Phone Number
Mayor and Council Village of Frankfort P.O. Box 351 Frankfort, Ohio 45628	

C. AREAS EVALUATED DURING INSPECTION

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

(S = Satisfactory; M = Marginal; U = Unsatisfactory; N = Not Evaluated; N/A = Not Applicable)

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



 Jake Greuey, Inspector, Ohio EPA, Southeast District Office

8/9/10

 Date



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

8/9/10

 Date

E. PERMIT VERIFICATION

Inspection Observations Verify the Permit	YES	NO	N/A	N/E
a. Correct name & mailing address of permittee	X			
b. Correct name & location of receiving waters	X			
c. Product(s) & production rates conform with permit application (industries)			X	
d. Flows & loadings conform with NPDES permit	X			
e. Treatment processes are as described in permit application/briefing memo	X			
f. New treatment process(es) added since last inspection		X		
g. Notification given to state of new, different, or increased discharges			X	
h. All discharges are permitted	X			
i. Number & location of discharge points are as described in permit	X			

Comments:

F. COMPLIANCE SCHEDULES/VIOLATIONS

	YES	NO	N/A	N/E
a. Any significant violations since the last inspection		X		
b. Permittee is taking actions to resolve violations			X	
c. Permittee has compliance schedule		X		
d. Compliance schedule contained in:			X	
e. Permittee is meeting compliance schedule			X	

Comments:

G. OPERATION AND MAINTENANCE

Treatment Facility Properly Operated & Maintained	YES	NO	N/A	N/E
a. Standby power available: Generator: _____ Dual Feed: X	X			
b. Adequate alarm system available for power or equipment failures	X			
c. All treatment units in service other than backup units	X			
d. Sufficient operating staff provided: No. of shifts: 1 Days/Week: 7	X			
e. Operator holds unexpired license of class required by permit. Class: I	X			
f. Copy of certificate of Operator of Record displayed on-site	X			
g. Minimum operator staffing requirements fulfilled (OAC 3745-7)	X			
h. Routine & preventive maintenance schedule/performed on time	X			
i. Any major equipment breakdown since last inspection		X		
j. Operation & maintenance manual provided & maintained	X			
k. Any plant bypasses since last inspection		X		
l. Regulatory agency notified of bypasses: _____ on MORS _____ 800 No. _____			X	
m. Any hydraulic and/or organic overloads experienced since last inspection		X		

Record Keeping	YES	NO	N/A	N/E
a. Log book provided	X			
b. Log book kept on-site	X			
c. Log book contains the following:				
1. Identification of treatment works	X			
2. Date/time of arrival/departure of ORC	X			

3. Daily record of operation and maintenance activities	X			
4. Laboratory results (unless documented on bench sheets)			X	
5. Identification of person making log entries	X			
d. Is the ORC submitting written notification to Ohio EPA and permittee when a collection system overflow, treatment plant bypass or effluent limit violation has occurred	X			

Comments:

Collection System	YES	NO	N/A	N/E
a. Percent combined system: <u>0</u> %				
b. Any collection system overflows since last inspection: CSO <u> </u> SSO: <u> </u>		X		
c. Regulatory agency notified of overflow (SSOs)			X	
d. CSO O&M plan provided and implemented			X	
e. CSOs monitored and reported in accordance with permit			X	
f. Portable pumps used to relieve system			X	
g. Lift station alarm systems provided and maintained			X	
h. Are lift stations equipped with permanent standby power or equivalent			X	
i. Is there an inflow/infiltration problem (separate sewer system), or were there any major repairs to collection system since last inspection		X		
j. Any complaints received since last inspection of basement flooding		X		
k. Are any portions of the sewer system at or near capacity		X		

Comments:

H. SLUDGE MANAGEMENT

	YES	NO	N/A	N/E
a. Sludge adequately disposed. Method: <u>Land Application</u>	X			
b. If sludge is incinerated, where is ash disposed of?		X		
c. Is sludge disposal contracted? Name: <u> </u>		X		
d. Has amount of sludge generated changed significantly since last inspection		X		
e. Adequate sludge storage provided at facility	X			
f. Land application sites monitored and inspected per state rules	X			
g. Records kept in accordance with state rules	X			
h. Any complaints received in last year regarding sludge		X		
i. Is sludge adequately processed (digestion, dewatering, pathogen control) in accordance with Ohio EPA rules	X			

Comments:

I. SELF-MONITORING PROGRAM

Part 1 – Flow Measurement	YES	NO	N/A	N/E
a. Primary flow measuring device properly operated & maintained. Type of device: <u>X</u> ultrasonic & parshall flume <u> </u> calculated from influent <u> </u> weir <u> </u> other <u> </u> ultrasonic & weir <u> </u> specify: <u> </u>	X			

b. Calibration frequency adequate. Date of last calibration: <u>Dec. 1, 2009</u>	X			
c. Secondary instruments (totalizers, recorders, etc.) properly operated & maintained	X			
d. Flow measurement equipment adequate to handle expected ranges of flows	X			
e. Actual flow discharged is measured	X			
f. Flow measuring equipment inspection frequency: <input checked="" type="checkbox"/> Daily <input type="checkbox"/> Monthly <input type="checkbox"/> Weekly <input type="checkbox"/> Other				

Comments:

Part 2 – Sampling	YES	NO	N/A	N/E
a. Sampling locations(s) are as specified by permit	X			
b. Parameters and sampling frequency agree with permit	X			
c. Permittee uses required sampling method	X			
d. Sample collection procedures are adequate	X			
i. Samples refrigerated during compositing	X			
ii. Proper preservation techniques used	X			
Conform with 40 CFR 136.3				
e. Monitoring records (e.g., flow, pH, D.O., etc.) maintained for a minimum of three years including all original strip chart recordings (e.g., continuous monitoring instrumentation, calibration, & maintenance records)	X			
f. Adequate records maintained of sampling date, time, exact location, etc.	X			

Comments:

Part 3 – Laboratory, General	YES	NO	N/A	N/E
a. Written Standard Operating Procedures (SOPs) for all analysis performed on-site	X			
b. EPA approved analytical testing procedures used (40 CFR 136.3)	X			
c. If alternate analytical procedures are used, proper approval has been obtained		X		
d. Analyses being performed more frequently than required by permit		X		
e. If (c) is yes, are results reported in permittee's self-monitoring report			X	
f. Commercial laboratory used: Parameters analyzed by commercial lab: <u>All analyses except TSS and cBOD</u> Lab name: <u>MASI</u>	X			

Comments: All wastewater analysis is contracted out.

Part 3 – Laboratory, Quality Control/Quality Assurance	YES	NO	N/A	N/E
a. Quality assurance manual provided and maintained		X		
b. Satisfactory calibration and maintenance of instruments and equipment	X			
c. Adequate records maintained	X			
d. Results of latest U.S. EPA quality assurance performance sampling program: N/A Date: _____ <input type="checkbox"/> Satisfactory <input type="checkbox"/> Marginal <input type="checkbox"/> Unsatisfactory				

Comments:

J. EFFLUENT/RECEIVING WATER OBSERVATIONS

Outfall #	Oil Sheen	Grease	Turbidity	Visible Foam	Visible Float Solids	Color	Other
001	None	None	Clear	None	None	Colorless	

Comments:

K. MULTIMEDIA OBSERVATIONS

Collection System	YES	NO	N/A	N/E
a. Are there indications of sloppy housekeeping or poor maintenance in work and storage areas or laboratories		X		
b. Do you notice staining or discoloration of soils, pavement, or floors		X		
c. Do you notice distressed (unhealthy, discolored, dead) vegetation		X		
d. Do you see unidentified dark smoke or dustclouds coming from sources		X		
e. Do you notice any unusual odors or strong chemical smells		X		
f. Do you see any open or unmarked drums, unsecured liquids, or damaged containment facilities		X		

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

1. What is the cause of the conditions?
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:

General Lab Criteria

Facility:

Criteria	Standard Methods Requirement	Acceptable?		Rating
Balance				
• Standard Weights	• Either NIST Class s or ASTM/ANSI Class 1 weights ^{1,2}	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	M
• Calibration Frequency / Documentation	• Calibration verification required at least once each day the balance is used. ³	<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 ¹	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Service and recalibrate annually (manufacturer representative or comparable) ¹	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
	• Must be able to measure to 0.1 grams ⁴	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Instrument manual available	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book maintained ⁶	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

Comments: Need to purchase a light and heavy Class I weight within the expected range to calibrate scales, document calibration results in a logbook and conduct annual factory calibration of scales.

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

Comments: Need to purchase an NIST traceable thermometer and calibrate thermometer and post the correction factor if necessary. Need to also purchase a logbook for documentation of calibration results.

Criteria	Standard Methods Requirement	Acceptable?		Rating
pH Meter				
• 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) ³	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	A
		• Logbook maintained ⁹	<input type="checkbox"/> Yes	
• Minimum of 2 point calibration	• Calibration per manufacturer specification and calibration buffers must bracket anticipated result ⁷	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Slope Documentation / Acceptability	• Slope acceptable range indicated on benchsheet ²	<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 ⁸	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments: Need to purchase a logbook.

Criteria	Standard Methods Requirement	Acceptable?		Rating
Dissolved Oxygen Meter				
• Calibration Method	• Air or known DO calibration method ¹⁰	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	A
		• Calibration per manufacturer specification ¹⁰	<input checked="" type="checkbox"/> Yes	
• Calibration Frequency	• Logbook maintained ⁹	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

General Lab Criteria

/ Documentation	<ul style="list-style-type: none"> Calibration verification required at least once each day the meter is used.³ 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	<ul style="list-style-type: none"> Small to no bubble present under membrane (must be smaller than the lead in number 2 pencil)¹¹ 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> Instrument manual available 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments: Need to purchase a logbook.

Criteria	Standard Methods Requirement	Acceptable?		Rating
Incubator (CBOD/ E-Coli)				
• Temperature Recordkeeping	• Temperature checked / recorded twice daily for each shelf in use ¹	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	A
	• Acceptable temperature range (CBOD) is 20° C ±1.0 ^{o 12}	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Acceptable temperature range (E-Coli) is 35° C ±0.5 ^{o 22}	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Logbook maintained ⁹	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer ^{1,2}	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
	• Temperature correction information posted on incubator ¹	<input type="checkbox"/> Yes	<input checked="" 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) ²³	<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). ⁵	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments: NIST traceable thermometer should be purchased and incubator thermometer calibrated and necessary correction factor posted.

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

Comments: Calibrate thermometer with an NIST traceable thermometer and post necessary correction factor.

Criteria	Standard Methods Requirement	Acceptable?		Rating
Chlorine Meter				
• Calibration Frequency / Documentation	• pH / millivolt meter read to 0.1 mV ¹⁵	<input type="checkbox"/> Yes	<input type="checkbox"/> No	A
	• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples) ³	<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 ¹⁶	<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. ⁹	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	

General Lab Criteria

	<ul style="list-style-type: none"> Instrument manual available 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments: A HACH pocket colorimeter residual chlorine meter is used so many of the above questions do not apply. The instrument is factory calibrated and checked yearly and all measurements conducted per the instrument manual.				
Criteria	Standard Methods Requirement	Acceptable?		Rating
Ammonia Meter				
<ul style="list-style-type: none"> Calibration Frequency / Documentation 	<ul style="list-style-type: none"> Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples)³ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> Log book being maintained⁹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> Slope acceptability 	<ul style="list-style-type: none"> Verify calibration slope is acceptable (per mfg. spec.) 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> Calibration Method 	<ul style="list-style-type: none"> Standards used for calibration (3 ammonia solutions of 10 mg/l, 1 mg/l, and 0.1 mg/l) or per mfg. spec.¹⁷ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> Standards used for calibration not expired 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> Other 	<ul style="list-style-type: none"> Electrode free of deposits and foreign material 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> Teflon covered magnetic stirrer or equivalent for mixing¹⁸ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> Instrument manual available 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments: No Ammonia analysis done in house.

Criteria	Standard Methods Requirement	Acceptable?		Rating
Sample Collection/Handling				
<ul style="list-style-type: none"> Sample Labeling 	<ul style="list-style-type: none"> Samples container labeled (description, date, time, preservative added, initialed).¹⁹ 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	A
<ul style="list-style-type: none"> Chain of Custody 	<ul style="list-style-type: none"> Chain of custody (description, date, time, signature).¹⁹ 	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
<ul style="list-style-type: none"> Other 	<ul style="list-style-type: none"> Composite samples refrigerated during sample collection¹⁴ 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> Equipment blanks utilized¹⁴ 	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
	<ul style="list-style-type: none"> SOP for cleaning of sampling equipment 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> Logbook being maintained⁹ 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments: Samples are delivered directly to the lab analyst following collection from the individual collecting the samples.

Criteria	Standard Methods Requirement	Acceptable?		Rating
Desiccator				
<ul style="list-style-type: none"> General criteria 	<ul style="list-style-type: none"> Properly working seals. 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	A
	<ul style="list-style-type: none"> Desiccant fresh (blue color) 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> Documentation 	<ul style="list-style-type: none"> Log book being maintained⁹ 	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

Comments: Maintain a logbook of desiccator care.

Criteria	Standard Methods Requirement	Acceptable?		Rating
Bench sheets				
<ul style="list-style-type: none"> General criteria 	<ul style="list-style-type: none"> Date(s)² 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	A
	<ul style="list-style-type: none"> Analyst initials² 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> Blue or black ink pen² 	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
	<ul style="list-style-type: none"> Calibration information² 	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
	<ul style="list-style-type: none"> Equations, calculations, units for all measurements, notations, and results present² 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> Corrections, single line through, initialed and dated² 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments: Need to begin recording information on bench sheets with either blue or black pen.

General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?	Rating
Hot Water Bath (Fecal Coliform/E. Coli)			
<ul style="list-style-type: none"> • Temperature Recordkeeping 	<ul style="list-style-type: none"> • Temperature Log (thermometer reads 0.2° C)²¹ 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Incubator temperature 44.5° C ± 0.2°^{21/24} 		
<ul style="list-style-type: none"> • Temperature Calibration / Documentation 	<ul style="list-style-type: none"> • Thermometer calibrated annually with NIST traceable thermometer^{1,2} 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Log book being maintained⁹ 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> • Water Level 	<ul style="list-style-type: none"> • Thermometer total immersion or partial (line on thermometer to ID immersion depth)^{1,5} 	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Comments: No bacteria analysis done in house.

Criteria	Standard Methods Requirement	Acceptable?	Rating
Autoclaves/Steam Sterilizers			
<ul style="list-style-type: none"> • All apparatus utilized is adequately sterilized before use 	<ul style="list-style-type: none"> • Sterilizing temperature 121° C²⁵ 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> • 10 to 30 minutes time based on material being sterilized²⁶ 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> • Documentation 	<ul style="list-style-type: none"> • 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.¹ 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Date, contents, sterilization time and temperature, total time in autoclave, and analyst's initials should be recorded each time the autoclave is used¹ 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> • Temperature Calibration / Documentation 	<ul style="list-style-type: none"> • Thermometer calibrated annually with NIST traceable thermometer^{1,2} 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Log book being maintained⁹ 	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> • Performance Checks 	<ul style="list-style-type: none"> • Test monthly for efficacy using a biological such as commercially available <i>Geobacillus stearothermophilus</i> in spore strips, suspensions, or capsules¹ 	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Comments: N/A

Number of Criteria Rated:	Acceptable	8
	Marginal	2
	Unacceptable	
	Total Number of Areas Rated	

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 H_2SO_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 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 H_2SO_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 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