



**Environmental
Protection Agency**

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

Re: **Notice of Violation**
Allen County
City of Lima WWTP
NPDES Permit

August 2, 2010

Mayor and Council
City of Lima
50 Town Square
Lima, Ohio 45801

Dear Mayor and Council:

On July 20, 2010, a National Pollutant Discharge Elimination System (NPDES) permit compliance inspection was conducted at the Lima wastewater treatment plant (WWTP). Mr. David Schnipke, Mr. Russell Bales, and Mr. Wade Leimeister were present and provided information on operation and maintenance of the plant. The inspection included completion of the enclosed NPDES Compliance Inspection Report, a brief review of laboratory practices/procedures and observation of the wastewater treatment plant.

During our visit, all major treatment units were in operation except one primary settling tank and one final settling tank. Both of these tanks were being upgraded with new collector mechanisms. The final effluent discharging to the Ottawa River was clear; however, a large amount of effluent foam was present and followed the effluent plume downstream. Mr. Leimeister indicated that Proctor & Gamble had been notified of the foaming condition and was requested to reduce their discharge. This foam accumulation is a violation of Part III, 2, B of your NPDES permit and Ohio Administrative Code Section 3745-1-04.

Your NPDES permit Schedule of Compliance required an updated CSO Long Term Control Plan (LTCP) to be submitted by January 1, 2008. Your staff indicated that the City has submitted Chapters 1 to 6 of the LTCP to U.S. EPA. They stated that the City cannot proceed with finalizing the plan until U.S. EPA accepts or rejects the City's proposal to bypass flow and use the nitrification towers as secondary treatment units during wet weather.

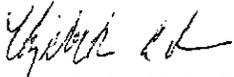
During our review of the laboratory, an acceptable rating was achieved for the balance; marginal ratings were achieved for the drying oven and desiccator indicating that improvements are necessary. Please inform this office in writing of the actions that will be taken to address the deficiencies outlined in our inspection report for the drying oven and desiccator.

We are currently processing your NPDES permit renewal application. Please continue to follow your current permit until the renewal permit becomes effective.

Mayor & Council
August 2, 2010
Page Two

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/cs

Enclosure

pc: Mr. Dave Schnipke, Lima, w/enclosure
Mr. Russell Bales, Lima WWTP, 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
2PE00000	OH0026069	7/20/2010	C	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	Entry Time	Permit Effective Date
City of Lima WWTP 1200 Ft. Amanda Road P.O. Box 1198 Lima, Ohio 45804	9:30 AM	January 1, 2008
	Exit Time	Permit Expiration Date
	11:15 AM	October 31, 2010
Name(s) and Title(s) of On-Site Representatives	Phone Number(s)	
Mr. David Schnipke, Environmental Compliance Manager	419-221-5294	
Mr. Russell Bales, WWTP Supervisor	419-221-5191	
Mr. Wade Leimeister, Industrial Monitoring/Lab Chief	419-221-5196	
Name, Address and Title of Responsible Official	Phone Number	
Mayor and Council City of Lima 50 Town Square Lima, Ohio 45801	419-221-5294	

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

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

Final effluent discharge to the Ottawa River was clear; however, accumulations of white foam were present.

An updated Long Term Control Plan was due January 1, 2008. The City intends to submit the plan in accordance with a proposed USEPA enforcement action.

NPDES permit renewal application is being processed.

Inspector	Reviewer
<i>Thomas Poffenberger</i> 7/28/10	<i>Elizabeth A. Wick</i> 7/29/10
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..... 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..... N

Comments/Status:

(a) CBOD (2) - March 2010; Chlorine Residual (2) - May 2010.

(e) LTCP update was due January 1, 2008, Chapters 1-6 of 11 total have been submitted to US EPA.

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..... N
- (d) Wastewater Treatment Works classification (OAC 3745-7)..... IV
- (e) Operator of Record holds unexpired license of class required by permit..... Y
 Class: I
- (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..... 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..... N

Record Keeping:

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

Hard Bound Book, maintenance is on the computer system
--
- (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..... Y
 - 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..... 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: 60%
- (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..... Y
- (e) CSOs monitored and reported in accordance with permit..... Y
- (f) Portable pumps used to relieve system..... Y
- (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 Y
- (k) Are any portions of the sewer system at or near capacity..... Y

Comments/Status:

(j) addressed through the City's Water in Basement Program
(k) only during wet weather.

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..... Y
(Method:Land Application)
(d) If sludge is incinerated, where is ash disposed of
(e) Is sludge disposal contracted..... Y
(Name:Wright Mulch)
(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:

(k) Class A sludge is generated

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:Venturimeter)
- (b) Calibration frequency adequate Y
(Date of last calibration: 7/12/2010)
(c) Secondary instruments operated and maintained..... Y
(d) Flow measurement equipment adequate to handle full range
of flows..... N
(e) Actual flow discharged is measured..... Y
(f) Flow measuring equipment inspection frequency
 Daily Weekly monthly other

Comments/Status:

(d) Flow meter cannot measure flows below 5 MGD.

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 Y
- (b) Do SOP's include the following if applicable (✓ means yes):
 - Title✓
 - Scope and Application✓
 - Summary✓
 - Sample Handling and Preservation NA
 - Interferences NA
 - Apparatus and Materials ✓
 - Reagents NA
 - Procedure ✓
 - Calculations✓
 - Quality Control ✓
 - Maintenance NA
 - Corrective Action NA
 - Reference(Parent method)✓
- (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. Y
- (f) If (e) is yes, are results in permittee's self-monitoring report..... Y

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: Ginosko (metals, Cn, O&G, TKN, Sludge); Alloway (bioassay); Pace (dioxins)

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	Yes	None	Clear	

Comments/Status:

Final effluent discharge to the Ottawa River was clear; however, a large amount of white foam followed the effluent plume downstream.

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:

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	
	Bypasses	OUT	Plant Bypass, Secondary Bypass, Tertiary Bypass
	Storm Water Overflows	-	
	Alternate Power Source	S	Three Generators (two for plant & one for computer system)
Preliminary	Maintenance of Collection Systems	S	
	Pump Station	--	
	Ventilation	--	
	Bar Screen	IN	3 Mechanically Cleaned, 1 Manually Cleaned (out)
	Disposal of Screenings	S	Landfilled
	Comminutor	--	
	Grit Chamber	IN	2 Units
	Disposal of Grit	S	Landfilled
	Chemical Addition	IN	Ferrous Chloride added after bar screens
	Chemical Addition	IN	Polymer added after grit chambers
Primary	Settling Tanks	IN	4 of 7 units in service
	Scum Removal	IN	To thickener
	Sludge Removal	IN	To digester
	Effluent	S	black
Sludge Disposal	Digesters	IN	Anaerobic (2 Primary, 1 Secondary)
	Temperature and pH	S	
	Gas Production	IN	Used as fuel for 2 Micro-turbines and/or boilers
	Heating Equipment	IN	3 Boilers, 2 Heat exchangers
	Sludge Pumps	IN	3 RAS, 2 WAS, 2 Recirculation, 3 Thickened sludge transfer
	Class A Process	IN	Lime & Fly Ash added
	Belt Filter Press	IN	3 Units (1 in operation)
	Sludge Thickening	IN	2 Units
	Sludge Storage Tanks	IN	2 Units (1 in operation)
Other	Microturbines	IN	3 Units
	Flow Meter and Recorder	IN	Venturimeter
	Records	S	
	Lab Controls	S	
Secondary - Tertiary	Chemical Treatment	--	
	Aeration Tanks	IN	5 Units, Good mixing and color
	Chemical Addition	IN	Polymer added before final clarifiers
	Final Clarifiers	IN	4 Units (1 out for repairs)
Disinfection	Nitrification Towers	IN	2 Units
	Effluent	U	Clear, White foam followed effluent plume downstream
	Disinfection System	IN	Sodium Hypochlorite
	Effective Dosage	S	
	Contact Time	S	
	Contact Tank	IN	
	Dechlorination	IN	Sodium Bisulfite

General Lab Criteria

Criteria	Standard Methods Requirement		Rating
Balance			
• Standard Weights	• Either NIST Class S or ASTM/ANSI Class 1 weights ^{1,2}	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	A
• 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 checked="" type="checkbox"/> Yes <input 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 ⁵		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Comments:			

Criteria	Standard Methods Requirement		Rating
Drying Oven (Suspended Solids)			
• Temperature Recordkeeping	• Temperature recorded with each use ⁴	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	M
	• Log book maintained ⁶	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
• 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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	• Acceptable temperature range is 103° – 105° F ⁴	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Instrument manual available	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Comments:			

Criteria	Standard Methods Requirement		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 type="checkbox"/> Yes <input type="checkbox"/> No	
	• Logbook maintained ⁹	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Minimum of 2 point calibration	• Calibration per manufacturer specification and calibration buffers must bracket anticipated result ⁷	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Slope Documentation / Acceptability	• Slope acceptable range indicated on benchsheet ²	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Buffer Expiration Date	• Buffers must not be expired	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Other	• Instrument manual available	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Teflon covered magnetic stirrer or equivalent for mixing ⁸	<input type="checkbox"/> Yes <input type="checkbox"/> No	

General Lab Criteria

Comments:

Criteria	Standard Methods Requirement	Acceptable?		Rating
Dissolved Oxygen Meter				
• Calibration Method	• Air or known DO calibration method ¹⁰	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Calibration per manufacturer specification ¹⁰	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Calibration Frequency / Documentation	• Logbook maintained ⁹	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Calibration verification required at least once each day the meter is used. ³	<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) ¹¹	<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
Incubator (CBOD/ E-Coli)				
• Temperature Recordkeeping	• Temperature checked / recorded twice daily for each shelf in use ¹	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Acceptable temperature range (CBOD) is 20° C ±1.0° ¹²	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Acceptable temperature range (E-Coli) is 35° C ±0.5° ²²	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Logbook maintained ⁹	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer ^{1,2}	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Temperature correction information posted on incubator ¹	<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) ²³	<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). ⁵	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments:

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

General Lab Criteria

Comments:

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	
	• 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 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
Ammonia 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 type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book being maintained ⁹	<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. ¹⁷	<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 ¹⁸	<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
Sample Collection/Handling				
• Sample Labeling	• Samples container labeled (description, date, time, preservative added, initialed). ¹⁹	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Chain of Custody	• Chain of custody (description, date, time, signature). ¹⁹	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

General Lab Criteria

<ul style="list-style-type: none"> • Other 	<ul style="list-style-type: none"> • Composite samples refrigerated during sample collection¹⁴ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Equipment blanks utilized¹⁴ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • SOP for cleaning of sampling equipment 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Logbook being maintained⁹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments:

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

Comments:

Criteria	Standard Methods Requirement	Acceptable?		Rating
Bench sheets				
<ul style="list-style-type: none"> • General criteria 	<ul style="list-style-type: none"> • Date(s)⁴ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Analyst initials² 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Blue or black ink pen² 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Calibration information² 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Equations, calculations, units for all measurements, notations, and results present² 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Corrections, single line through, initialed and dated² 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments:

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:

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° C⁴² 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • 10 to 30 minutes time based on material being sterilized²⁵ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

General Lab Criteria

<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 used ¹ 	<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 maintained ⁹ 	<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 capsules ¹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments:

Number of Criteria Rated:	Acceptable	1
	Marginal	2
	Unacceptable	0
	Total Number of Areas Rated	3

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:	<ul style="list-style-type: none"> >60% of ratings are Marginal >45% of ratings are a combination of Marginal or Unacceptable >30% of ratings are Unacceptable
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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