



Environmental
Protection Agency

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

Re: Allen County
City of Lima WWTP
NPDES Permit

August 15, 2011

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

Dear Mayor and Council:

On August 3, 2011, 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, Mr. Eric Markley 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 two primary settling tanks. These tanks were not being used due to dry weather and the associated low flow rates. The final effluent discharging to the Ottawa River was clear. However, no samples were collected to verify compliance with NPDES permit limits.

Mr. Bales indicated that Mr. Eric Markley is designated as a back-up Operator of Record for the WWTP during his absence. A review of our database indicates that Mr. Bales is the only Operator of Record designated for the Lima WWTP. Please complete the enclosed Operator of Record Notification Form for all operators that have potential to serve as a back-up operator of record.

Your NPDES permit Schedule of Compliance required an updated CSO Long Term Control Plan (LTCP) to be submitted by January 1, 2008. This updated plan was submitted to U.S. EPA on July 29, 2011. A copy was sent to the Northwest District Office on August 5, 2011.

A review of the laboratory was performed during the inspection. The laboratory was well organized. Written standard operating procedures for analyses performed onsite contained all of the information recommended in *Standard Methods for the Examination of Water and Wastewater*.

Mayor and Council
August 15, 2011
Page 2

An acceptable rating was achieved for all equipment necessary (dissolved oxygen meter, incubator and refrigerator) to conduct carbonaceous biochemical oxygen demand (CBOD) analysis.

The public comment period on your draft NPDES permit is scheduled to end on September 15, 2011. Please continue to follow your current permit until the renewal permit becomes effective.

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/lr

Enclosure

pc: Mr. Dave Schnipke, Lima, w/enclosures
Mr. Russell Bales, Lima WWTP, w/enclosures
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	8/3/2011	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
	11:05 PM	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. Eric Markley, Acting Assistant Supervisor	419-221-5198	
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	S	Laboratory	U	Compliance Schedule
S	Operations & Maintenance	S	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)

An updated Long Term Control Plan was submitted to U.S. E.P.A. on July 29, 2011 and Ohio EPA on August 5, 2011.

We have no record of Eric Markley being designated as a back-up Operator of Record for the Lima WWTP.

Public comment period for the draft NPDES permit is open until September 15, 2011.

Inspector	Reviewer
<i>Thomas Poffenbarger</i> 8/10/11	<i>Elizabeth A. Wick</i> 8/11/11
Thomas Poffenbarger, 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:

(f) New clarifier mechanisms were installed in existing clarifiers.

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) Chlorine (Sept 10, May 11); Mercury (May 11); D.O. (May 11- 5 Days)
(b) Chlorine (feed of bisulfite issues); Mercury (high flow collection system washout); D.O. (probe problems)
(e) LTCP update was due January 1, 2008, an updated Long Term Control Plan was submitted to U.S. E.P.A. on July 29, 2011 and Ohio EPA on August 5, 2011.

Section G: Operation & Maintenance

Treatment Works:

Treatment facility properly operated and maintained

- (a) Standby power available.....generator or dual feed Y
- (b) Adequate alarm system available for power or equipment failures.. Y
- (c) All treatment units in service other than backup units..... Y
- (d) Wastewater Treatment Works classification (OAC 3745-7)..... IV
- (e) Operator of Record holds unexpired license of class required by permit..... Y
 Class: IV
- (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..... N
- (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..... Y
- (d) Has the operator of record submitted written notification to the permittee, Ohio EPA and (if applicable) any local environmental agencies when a collection system overflow, treatment plant bypass or effluent limit violation has occurred..... Y

Section G: Operation & Maintenance (con't)

Collection System:

- (a) Percent combined system: 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: 7/27/2011)
- (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 ✓
 - Interferences NA
 - Apparatus and Materials ✓
 - Reagents NA
 - Procedure ✓
 - Calculations NA
 - Quality Control ✓
 - Maintenance NA
 - Corrective Action NA
 - Reference ✓
- (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
- (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: March 14, 2011

- (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	None	None	None	Clear	

Comments/Status:

An antifoam product is being added in the dechlorination chamber.

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	5 of 7 units in service
	Scum Removal	IN	To decanter
	Sludge Removal	IN	To thickener and then primary 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 (2 in operation)
	Sludge Thickening	IN	2 Units
	Sludge Storage Tanks	IN	2 Units (1 in operation)
	Micro-turbines	IN	3 Units (1 in service)
Other	Flow Meter and Recorder	IN	Venturimeter
	Records	S	
	Lab Controls	S	
	Chemical Treatment	--	
Secondary - Tertiary	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)
	Nitrification Towers	IN	2 Units
Disinfection	Effluent	S	Clear
	Disinfection System	IN	Sodium Hypochlorite
	Effective Dosage	S	
	Contact Time	S	
	Contact Tank	IN	
	Dechlorination	IN	Sodium Bisulfite
Chemical Addition	IN	Defoamer added in de-chlorination chamber	

● General Lab Criteria ●

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 type="checkbox"/> Yes	<input type="checkbox"/> No	A
	• Logbook maintained ²	<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	

Comments:

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	<input type="checkbox"/> No	
• Calibration Frequency / Documentation	• Logbook maintained ²	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Calibration verification required at least once each day the meter is used. ³	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Small to no bubble present under membrane (must be smaller than the lead in number 2 pencil) ¹¹	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Instrument manual available	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments:

● General Lab Criteria ●

Criteria	Standard Methods Requirement	Acceptable		Rating																																		
Incubator (CBOD/ E-Coli)																																						
<ul style="list-style-type: none"> • Temperature Recordkeeping 	<ul style="list-style-type: none"> • Temperature checked / recorded twice daily for each shelf in use¹ 	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	A																																		
	<ul style="list-style-type: none"> • Acceptable temperature range (CBOD) is 20° C ±1.0°¹² 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No																																			
	<ul style="list-style-type: none"> • Acceptable temperature range (E-Coli) is 35° C ±0.5°²² 	<input type="checkbox"/> Yes	<input type="checkbox"/> No																																			
	<ul style="list-style-type: none"> • Logbook maintained² 	<input checked="" 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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No																																			
	<ul style="list-style-type: none"> • Temperature correction information posted on incubator¹ 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No																																			
<ul style="list-style-type: none"> • E-Coli can use multiple tubes (five 20 ml or ten 10 ml), or mfg's multi-well tray 	<ul style="list-style-type: none"> • E-coli Ultraviolet lamp (365 nm wave length, 6 W bulb)²³ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No																																			
	<ul style="list-style-type: none"> • Other 	<ul style="list-style-type: none"> • Instrument manual available 	<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No																																	
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<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Criteria</th> <th style="width: 50%;">Standard Methods Requirement</th> <th colspan="2" style="width: 20%;">Acceptable</th> <th style="width: 5%;">Rating</th> </tr> </thead> <tbody> <tr> <td rowspan="2"> <ul style="list-style-type: none"> • Temperature Recordkeeping </td> <td> <ul style="list-style-type: none"> • Temperature Log (thermometer reads to 0.5 Celsius).⁵ </td> <td><input type="checkbox"/> Yes</td> <td><input checked="" type="checkbox"/> No</td> <td rowspan="6" style="text-align: center; vertical-align: middle; font-size: 2em;">A</td> </tr> <tr> <td> <ul style="list-style-type: none"> • Temperature Calibration / Documentation </td> <td> <ul style="list-style-type: none"> • Thermometer calibrated annually with NIST traceable thermometer^{1,2} </td> <td><input checked="" type="checkbox"/> Yes</td> <td><input type="checkbox"/> No</td> </tr> <tr> <td rowspan="3"> <ul style="list-style-type: none"> • Other </td> <td> <ul style="list-style-type: none"> • Thermometer held in water bath.¹ </td> <td><input checked="" type="checkbox"/> Yes</td> <td><input type="checkbox"/> No</td> </tr> <tr> <td> <ul style="list-style-type: none"> • Refrigerator temperature ≤6° Celsius.¹³ </td> <td><input checked="" type="checkbox"/> Yes</td> <td><input type="checkbox"/> No</td> </tr> <tr> <td> <ul style="list-style-type: none"> • Do not store volatile solvents, food, or beverages.¹⁴ </td> <td><input checked="" type="checkbox"/> Yes</td> <td><input type="checkbox"/> No</td> </tr> <tr> <td colspan="5">Comments:</td> </tr> <tr> <td colspan="5" style="height: 100px;"></td> </tr> </tbody> </table>					Criteria	Standard Methods Requirement	Acceptable		Rating	<ul style="list-style-type: none"> • Temperature Recordkeeping 	<ul style="list-style-type: none"> • Temperature Log (thermometer reads to 0.5 Celsius).⁵ 	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	A	<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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<ul style="list-style-type: none"> • Other 	<ul style="list-style-type: none"> • Thermometer held in water bath.¹ 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<ul style="list-style-type: none"> • Refrigerator temperature ≤6° Celsius.¹³ 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<ul style="list-style-type: none"> • Do not store volatile solvents, food, or beverages.¹⁴ 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Comments:									
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Comments:																																						

● General Lab Criteria ●

Criteria	Standard Methods Requirement		Rating
Chlorine Meter			
• Calibration Frequency / Documentation	• pH / millivolt meter read to 0.1 mV [~]	<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. ²	<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
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 ²	<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:			

● General Lab Criteria ●

Criteria	Standard Methods Requirement	Acceptable?		Rating
Sample Collection/Handling				
<ul style="list-style-type: none"> • Sample Labeling • Chain of Custody • Other 	<ul style="list-style-type: none"> • Samples container labeled (description, date, time, preservative added, initialed).¹⁹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Chain of custody (description, date, time, signature).¹⁹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<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 • SOP for cleaning of sampling equipment • Logbook being maintained² 	<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 type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Desiccant fresh (blue color) 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Log book being maintained² 	<input type="checkbox"/> Yes	<input 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)² 	<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:

● General Lab Criteria ●

Criteria	Standard Methods Requirement	Acceptable		Rating
Hot Water Bath (Fecal Coliform/E. Coli)				
• Temperature Recordkeeping	• Temperature Log (thermometer reads 0.2° C) ²¹	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Incubator temperature 44.5° C ± 0.2° ^{21/24}			
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer ^{1, 2}	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book being maintained ²	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Water Level	• 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				
• All apparatus utilized is adequately sterilized before use	• Sterilizing temperature 121° C ²⁵	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• 10 to 30 minutes time based on material being sterilized ²⁶	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Documentation	• Verify the autoclave temperature weekly by using a maximum registering thermometer (MRT) to confirm that 121°C has been reached as measured in the exhaust. ¹	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Date, contents, sterilization time and temperature, total time in autoclave, and analyst's initials should be recorded each time the autoclave is used ¹	<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	
	• Log book being maintained ²	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Performance Checks	• Test monthly for efficacy using a biological such as commercially available <i>Geobacillus stearothermophilus</i> in spore strips, suspensions, or capsules ¹	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:				

● General Lab Criteria ●

Criteria	Standard Methods Requirement	Rating								
Final Effluent Temperature Monitoring		Acceptable <input checked="" type="checkbox"/>								
• General Criteria	• Thermometer calibrated annually with NIST traceable thermometer ^{1,2}	<input type="checkbox"/> Yes <input type="checkbox"/> No								
	• Thermometer reads in increments of at least 0.1° C ⁵	<input type="checkbox"/> Yes <input type="checkbox"/> No								
	• Log book being maintained ²	<input type="checkbox"/> Yes <input type="checkbox"/> No								
Comments:										
Number of Criteria Rated:		<table style="margin-left: auto; margin-right: auto;"> <tr><td style="padding: 2px;">Acceptable</td><td style="text-align: center;">3</td></tr> <tr><td style="padding: 2px;">Marginal</td><td style="text-align: center;">0</td></tr> <tr><td style="padding: 2px;">Unacceptable</td><td style="text-align: center;">0</td></tr> <tr><td style="padding: 2px;">Total Number of Areas Rated</td><td style="text-align: center;">3</td></tr> </table>	Acceptable	3	Marginal	0	Unacceptable	0	Total Number of Areas Rated	3
Acceptable	3									
Marginal	0									
Unacceptable	0									
Total Number of Areas Rated	3									
<p>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).</p> <p>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).</p> <p>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).</p>										
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 									

Notation of Referenced Method

- | | |
|--|--|
| <ul style="list-style-type: none"> 1 Method 9020-B, Item 3 2 Method 1020-A, Item 1 3 Method 1020-B, Item 10 4 Method 2540-B, Item 2 5 Method 2550-B, Item 1 6 Method 1020-A, Item 1 7 Method 4500-H B, Item 4 8 Method 4500-H B, Item 2 9 Method 1020-B, Item 2 10 Method 4500-O B, Item 3 11 Method 4500-O G, Item 3 12 Method 5210-B, Item 5 13 CFR 136.3, Table II | <ul style="list-style-type: none"> 14 Method 1060A, Item 1 15 Method 4500-CI I, Item 2 16 Method 4500-CI I, Item 4 17 Method 4500-NH3 D, Item 4 18 Method 4500-NH3 D, Item 2 19 Method 1060-B, Item 2 20 Method 1060-B, Item 1 21 Method 9222D, Item 1 22 Method 9223 B, Item 2 23 Method 9223 B, Item 3 24 Method 1603, Item 2 25 Method 9030-B, Item 3 26 Method 9020 B, Table IV |
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● General Lab Criteria ●

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

Preservation and Holding Times

Parameter	Container	Min. Sample Size (mL)	Sample Type	Preservation	Maximum Storage Time	
					Recommended	Regulatory
BOD / CBOD	P, G	1000	G, C	Refrigerate $\leq 6^{\circ}\text{C}$	6h	48h
TSS	P, G	200	G, C	Refrigerate $\leq 6^{\circ}\text{C}$	7 d	7 d
pH	P, G	50	G	Analyze immediately	0.25h	0.25 h
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

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