



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 Korteski, Director

June 2, 2010

Re: Washington County
City of Marietta
Compliance Evaluation Inspection (CEI)
Correspondence (PWW)

Mayor and Council
City of Marietta
301 Putnam Street
Marietta, Ohio 45750

Dear Mayor and Council:

On April 15, 2010, a Compliance Evaluation Inspection (CEI) was conducted at the City of Marietta's wastewater treatment plant. The purpose of the inspection was to determine the City's compliance with its National Pollutant Discharge Elimination System (NPDES) Permit. Present for the inspection was Steve Elliott and Christy King, representing the City of Marietta and Tim Campbell and Stephen Wells representing the Ohio EPA, Division of Surface Water, Southeast District Office. No wastewater samples were collected as part of the inspection. A copy of my inspection report is attached.

As a result of my inspection, I have the following comments:

1. The anaerobic digesters at the facility are not in operation due to a pipe failure in the basement of the building. The problems with the digesters mean the City can now only process partially treated sludge. The City is in the process of investigating the necessary upgrades to help the plant return to being able to produce at least a Class B sludge.

Currently, the plant is meeting its NPDES Permit limits with the reduced sludge processing capabilities by land filling of the sludge. However, the City needs to continue with its plans as soon as possible to repair and/or upgrade its sludge treatment capabilities to help prevent potential NPDES Permit effluent limitations due to inability to properly process sludge. Please inform this office on the status of the sludge upgrades.

2. The City is currently working on an upgrade of the entire wastewater treatment plant. The Permit to Install (PTI) Applications for Phase I, Parts A and B are currently being reviewed by Ohio EPA's Division of Environmental and Financial Assistance (DEFA). As noted above, the schedule for the upgrades of the entire wastewater plant may be different now with the problems with the anaerobic digesters. Please update this office on the updated schedule for the upgrades of the entire wastewater treatment plant.

3. The City and County are currently in the process of negotiating an agreement to allow for the County to connect areas around the City into the City's collection system. Ohio EPA encourages the City and County to continue working on this agreement to allow for the regionalization of wastewater treatment.
4. A lab inspection was conducted as part of the inspection. A copy of the lab inspection report is attached.
5. The City needs to continue working on the removal of inflow/infiltration from the collection system. Please update this office on the I/I removal progress.
6. The wastewater treatment plant is operating the first aeration basin as an anoxic zone to help prevent the formation of filamentous bacteria.

The Ohio EPA strongly encourages pollution prevention as the preferred approach for waste management. The first priority of pollution prevention is to eliminate the generation of wastes and pollutants at the source (source reduction). For those wastes or pollutants that are generated, the second priority is to recycle or reuse them in an environmentally sound manner. You can benefit economically, help preserve the environment, and improve your public image by implementing pollution prevention programs. For more information about pollution prevention, including fact sheets or U.S. EPA's "Facility Pollution Prevention Guide" (EPA/600/R-92.008), please contact the Ohio EPA Pollution Prevention Section at (614) 644-3469.

In conclusion, the City of Marietta appeared to be in compliance with its NPDES Permit at the time of the inspection.

Please respond to in writing to this office to Comments # 1, 2 and 5 above.

If you have questions, feel free to contact me at (740) 380-5434.

Sincerely,



Stephen Wells
District Representative
Division of Surface Water

SW/dh

Enclosures

c: Steve Elliott, City of Marietta

NPDES Compliance Inspection Report

A. NATIONAL DATA SYSTEM CODING

Permit No.	NPDES No.	Date	Inspection Type	Inspector	Facility Type
OPD00016*QD	OH0026344	April 15, 2010	C	S	1

B. FACILITY DATA

Name & Location of Facility Inspected	Entry Time	Permit Effective Date
City of Marietta Wastewater Treatment Plant 440 East 8 th Street Marietta, Ohio 45750	9:30 a.m.	July 1, 2009
	Exit Time	Permit Expiration Date
	12:00 p.m.	October 31, 2013

Name(s) & Title(s) of On-Site Representative(s)	Phone Number(s)
Steve Elliott, Wastewater Superintendent	(740) 373-3858
Name, Address, & Title of Responsible Official	Phone Number
Mayor and Council City of Marietta 301 Putnam Street Marietta, Ohio 45750	(740) 373-1387

C. AREAS EVALUATED DURING INSPECTION

<u>S</u> Permit	<u>S</u> Flow Measurement	<u>N</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>M</u> Facility Site Review	<u>M</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)

See attached letter.

Stephen Wells
Stephen Wells, Inspector, Ohio EPA, Southeast District Office

6/4/10
Date

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

6/4/10
Date

E. PERMIT VERIFICATION

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

Comments:

F. COMPLIANCE SCHEDULES/VIOLATIONS

	YES	NO	N/A	N/E
a. Any significant violations since the last inspection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Permittee is taking actions to resolve violations	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Permittee has compliance schedule	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Compliance schedule contained in:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Permittee is meeting compliance schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Comments:

G. OPERATION AND MAINTENANCE

Treatment Facility Properly Operated & Maintained	YES	NO	N/A	N/E
a. Standby power available: Generator: <input checked="" type="checkbox"/> Dual Feed: <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Adequate alarm system available for power or equipment failures	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. All treatment units in service other than backup units	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Sufficient operating staff provided: # of shifts: 3 Days/Week: 7	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Operator holds unexpired license of class required by permit. Class: IV	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Copy of certificate of Operator of Record displayed on-site	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Minimum operator staffing requirements fulfilled (OAC 3745-7)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Routine & preventive maintenance schedule/performed on time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Any major equipment breakdown since last inspection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Operation & maintenance manual provided & maintained	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Any plant bypasses since last inspection	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. Regulatory agency notified of bypasses: On MORS: <input type="checkbox"/> 800 No.: <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
m. Any hydraulic and/or organic overloads experienced since last inspection	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

Record Keeping	YES	NO	N/A	N/E
a. Log book provided	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Log book kept on-site	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Log book contains the following:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1. Identification of treatment works	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Date/time of arrival/departure of ORC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Daily record of operation and maintenance activities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Laboratory results (unless documented on bench sheets)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Identification of person making log entries	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

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

Comments:

SLUDGE MANAGEMENT

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

Comments:

See attached letter.

Part 3 – Laboratory, Quality Control/Quality Assurance	YES	NO	N/A	N/E
a. Quality assurance manual provided and maintained	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Satisfactory calibration and maintenance of instruments and equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Adequate records maintained	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Results of latest U.S. EPA quality assurance performance sampling program: Date: DMR QA-29 <input checked="" 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	None	Slight	None	Clear	

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	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Do you notice staining or discoloration of soils, pavement, or floors	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Do you notice distressed (unhealthy, discolored, dead) vegetation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Do you see unidentified dark smoke or dustclouds coming from sources	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Do you notice any unusual odors or strong chemical smells	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Do you see any open or unmarked drums, unsecured liquids, or damaged containment facilities	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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: City of Marietta, June 2, 2010

Criteria	Standard Methods Requirement	Acceptable?	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 ⁶	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Comments:			

Criteria	Standard Methods Requirement	Acceptable?	Rating
Drying Oven (Suspended Solids)			
• Temperature Recordkeeping	• Temperature recorded with each use ⁴	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	A
		• Log book maintained ⁶	
• Calibration Frequency /Documentation	• Thermometer calibrated annually with NIST traceable thermometer ^{1,2} . Correction factor posted on thermometer / equipment ¹	<input checked="" type="checkbox"/> Yes <input 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:			

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	M
		• Logbook maintained ⁹	
• 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 type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
• Other	• Instrument manual available	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Teflon covered magnetic stirrer or equivalent for mixing ⁸	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Comments: Buffer for pH-7 was expired.			

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	
• Calibration Frequency	• Logbook maintained ⁹	<input checked="" type="checkbox"/> Yes <input 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:

Criteria	Standard Methods Requirement	Acceptable?		Rating
Incubator (CBOD/ E-Coli)		Acceptable?		A
• Temperature Recordkeeping	• Temperature checked / recorded twice daily for each shelf in use ¹	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
	• Acceptable temperature range (CBOD) is 20° C ±1.0 ° ¹²	<input checked="" 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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer ^{1, 2}	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Temperature correction information posted on incubator ¹	<input checked="" 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 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: Temperature is recorded only once per day. Please start recording twice per day.

Criteria	Standard Methods Requirement	Acceptable?		Rating
Refrigerator		Acceptable?		A
• Temperature Recordkeeping	• Temperature Log (thermometer reads to 0.1 Celsius). ⁵	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer ^{1, 2}	<input checked="" type="checkbox"/> Yes	<input 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:

Criteria	Standard Methods Requirement	Acceptable?		Rating
Chlorine Meter		Acceptable?		NR
• 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	

General Lab Criteria

	<ul style="list-style-type: none"> Instrument manual available 	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
Comments: NPDES Permit does not require Chlorine monitoring.					
Criteria	Standard Methods Requirement	Acceptable?		Rating	
Ammonia Meter					
<ul style="list-style-type: none"> Calibration Frequency / Documentation Slope acceptability Calibration Method Other 	<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	NR	
		<ul style="list-style-type: none"> Log book being maintained⁹ 	<input type="checkbox"/> Yes		<input type="checkbox"/> No
		<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"> 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"> 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 Instrument manual available 	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
Comments:					
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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	M	
		<ul style="list-style-type: none"> Chain of custody (description, date, time, signature).¹⁹ 	<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No
		<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 checked="" type="checkbox"/> Yes		<input type="checkbox"/> No
		<ul style="list-style-type: none"> SOP for cleaning of sampling equipment Logbook being maintained⁹ 	<input type="checkbox"/> Yes		<input checked="" 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	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"> Log book being maintained⁹ 	<input checked="" 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 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 checked="" type="checkbox"/> Yes		<input type="checkbox"/> No
		<ul style="list-style-type: none"> Calibration information² 	<input checked="" type="checkbox"/> Yes		<input 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:					

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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No	A
	<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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> Log book being maintained⁹ 	<input checked="" 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 checked="" 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° C²⁵ 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	A
	<ul style="list-style-type: none"> 10 to 30 minutes time based on material being sterilized²⁶ 	<input checked="" 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 checked="" 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 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} Log book being maintained⁹ 	<input checked="" 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Comments:

Number of Criteria Rated:	Acceptable	9
	Marginal	2
	Unacceptable	
	Total Number of Areas Rated	11

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