



State of Ohio Environmental Protection Agency

Southeast District Office

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Logan, Ohio 43138

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

September 28, 2010

Re: Coshocton County
West Lafayette WWTP
Ohio EPA Permit No. OPB00048*JD
NPDES Permit No. OH0022284
Compliance Evaluation Inspection
Correspondence (PWW)

Mayor Jack Patterson and Council
Village of West Lafayette
P.O. Box 175
West Lafayette, Ohio 43845

Dear Mayor Patterson and Council:

On August 23, 2010, I conducted a Compliance Evaluation Inspection at the Village's Wastewater treatment plant. The purpose of the inspection was to determine compliance with terms and conditions of National Pollutant Discharge Elimination System (NPDES) permit number OPB00048*JD and to evaluate the wastewater treatment systems performance. Dave Kadri and Travis Hahn represented the Village of West Lafayette during the inspection.

We have received your self-monitoring reports covering the months of June and July 2010 for the referenced facility. Our review indicates violations of the conditions of your NPDES permit. The specific instances of noncompliance and/or deficiencies are as follows:

Station	Reporting Code	Parameter	Limit Type	Limit	Reported Value	Violation Date
001	00400	pH	1D Conc	6.5	6.35	7/11/2010
001	31616	Fecal Coliform	1D Conc	2000	2100.	7/13/2010

Noncompliance notification was submitted to the agency for these reported violations. The pH was believed to be attributed to operator error with calibrating the meter and the fecal coliform violation was considered attributed to a sludge blanket washout.

High flows attributed to wet weather events have been recorded by the Village. The flows are directed to equalization and the plant's treatment basins. Extended wet weather often overextends the equalization basin capacity. The current draft Permit to Install addresses peak flows with larger clarifiers and 12 foot side wall depths. Standard Operation Procedures need to be developed and maintained for the laboratory testing and equipment used to monitor the plant per the NPDES permit.

The WWTP standby generator is reported to be started every Tuesday and put on load on the fourth Tuesday of each month. This is a very good sign of maintenance. The housekeeping throughout the facility was notably clean.

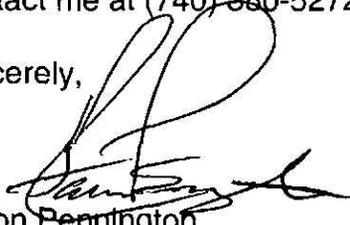
One concern noted during the inspection was that the chlorine room is highly corroded. Monitoring of corrosive gases should be done prior to entry and adequate protection provided for handling of chemicals. Safety is priority.

Some notable ongoing maintenance included: WAS pump repair/replacement, and one of the sludge blowers is down.

A recent Sludge audit was performed by Jacob Howdyshell of Ohio EPA. The WWTP has processed and accumulated a sizeable amount of biosolids for which land application is being pursued. The sludge rules require sludge generators/processors to maintain records for how pathogen reduction and vector attraction standards were satisfied prior to application. The sludge upon achieving the standards may then be applied to fields for an agronomic benefit. We were informed that the Village is looking to hire a contract sludge disposal service. Please assure that all parties are aware of the sludge rules requirements and understand their individual roles for documentation and application rates.

A copy of the inspection report is enclosed. The assistance and cooperation received during the inspection was appreciated. If you have any questions, please feel free to contact me at (740) 380-5272.

Sincerely,



Aaron Pennington
District Representative
Division of Surface Water

AMP/dh

Enclosure

c: Travis Hahn, Village of West Lafayette

NPDES Compliance Inspection Report

A. NATIONAL DATA SYSTEM CODING

Permit No.	NPDES No.	Date	Inspection Type	Inspector	Facility Type
OPB00048*JD	OH0022284	August 23, 2010	C	S	1

B. FACILITY DATA

Name & Location of Facility Inspected	Entry Time	Permit Effective Date
Village of West Lafayette WWTP North Ripple Lane West Lafayette, Ohio 43845	10:00 a.m.	October 1, 2009
	Exit Time	Permit Expiration Date
	1:30 p.m.	July 31, 2013

Name(s) & Title(s) of On-Site Representative(s)	Phone Number(s)
Travis Hahn, Operator	(740) 545-7883
Name, Address, & Title of Responsible Official	Phone Number
Mayor and Council P.O. Box 175 West Lafayette, Ohio 43845	(740) 545-7883

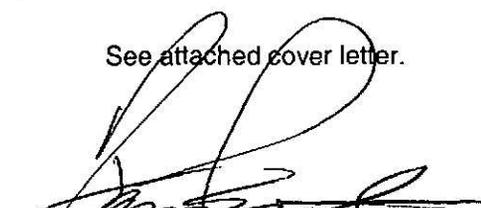
C. AREAS EVALUATED DURING INSPECTION

<u>S</u> Permit	<u>S</u> Flow Measurement	<u>S</u> Pretreatment
<u>S</u> Records/Reports	<u>M</u> Laboratory	<u>NA</u> Compliance Schedules
<u>M</u> Operations & Maintenance	<u>S</u> Effluent/Receiving Waters	<u>S</u> Self-Monitoring Program
<u>M</u> Facility Site Review	<u>S</u> Sludge Storage/Disposal	<u> </u> Other
<u>M</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 cover letter.


 Aaron M. Pennington, Inspector, Ohio EPA, Southeast District Office

9-29-10
 Date


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

9/29/10
 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Flows & loadings conform with NPDES permit	<input type="checkbox"/>	<input checked="" 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"/>

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"/>

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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. All treatment units in service other than backup units	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Sufficient operating staff provided: # of shifts: 1 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: I	<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 (WAS pump, Sludge Blower is down)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Operation & maintenance manual provided & maintained (work in progress)	<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 (hydraulic)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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"/>

Collection System	YES	NO	N/A	N/E
a. Percent combined system. Percent: Two streets - Union and Fourth	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Regulatory agency notified of overflow (SSOs historically have been reported)	<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. CSOs 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Lift station alarm systems provided and maintained (visual)	<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 type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" 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"/>

H. SLUDGE MANAGEMENT

	YES	NO	N/A	N/E
a. Sludge adequately disposed. Method: looking to land application	<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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Is sludge disposal contracted? Name: Agrisludge this fall	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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"/>

Part 3 – Laboratory, Quality Control/Quality Assurance	YES	NO	N/A	N/E
a. Quality assurance manual provided and maintained	<input type="checkbox"/>	<input checked="" 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: N/A				
Date: <input type="checkbox"/> Satisfactory <input type="checkbox"/> Marginal <input type="checkbox"/> Unsatisfactory				

J. EFFLUENT/RECEIVING WATER OBSERVATIONS

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

Comments:

General Lab Criteria

Facility: West Lafayette WWTP

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

Comments:

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

Comments:

Criteria	Standard Methods Requirement	Acceptable?		Rating
pH Meter				
• Calibration Frequency / Documentation	• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples) ³	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	A
		• Logbook maintained ⁹	<input checked="" type="checkbox"/> Yes	
• Minimum of 2 point calibration	• Calibration per manufacturer specification and calibration buffers must bracket anticipated result ⁷	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Slope Documentation / Acceptability	• Slope acceptable range indicated on benchsheet ²	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
• Buffer Expiration Date	• Buffers must not be expired	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Instrument manual available	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Teflon covered magnetic stirrer or equivalent for mixing ⁸	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments: Calibration is recorded per lab checklist. Slope is generated by meter.

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

General Lab Criteria

/ Documentation	• 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: Orion 9708				

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 checked="" type="checkbox"/> No	M
	• Acceptable temperature range (CBOD) is 20° C ±1.0 ^{o12}	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
	• Acceptable temperature range (E-Coli) is 35° C ±0.5 ^{o22}	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Logbook maintained ⁹	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer ^{1,2}	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
	• Temperature correction information posted on incubator ¹	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
• E-Coli can use multiple tubes (five 20 ml or ten 10 ml), or mfg's multi-well tray	• E-coli Ultraviolet lamp (365 nm wave length, 6 W bulb) ²³	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Instrument manual available	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Temperature Log (thermometer reads to 0.1 Celsius). ⁵	<input type="checkbox"/> Yes	<input checked="" 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 checked="" type="checkbox"/> No	M
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer ^{1,2}	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
	• Other	• Thermometer held in water bath. ¹	<input checked="" type="checkbox"/> Yes	
• Refrigerator temperature ≤6° Celsius. ¹³		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Do not store volatile solvents, food, or beverages. ¹⁴	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

Comments: Temperature was 7

Criteria	Standard Methods Requirement	Acceptable?		Rating
Chlorine Meter				
• Calibration Frequency / Documentation	• pH / millivolt meter read to 0.1 mV ¹⁵	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	M
		• 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	
• Calibration Method	• Calibration using three iodate solutions 0.2, 1.0, 5.0 milliliters or calibration per manufacturer specification ¹⁶	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Standards used for calibration not expired	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
• Slope Documentation / Acceptability	• Calibration curve (acceptable slope)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Electrode free of deposits and foreign material	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book being maintained. ⁹	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

General Lab Criteria

	<ul style="list-style-type: none"> Instrument manual available 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
Comments: Orion 9708					
Criteria	Standard Methods Requirement	Acceptable?		Rating	
Ammonia Meter					
<ul style="list-style-type: none"> Calibration Frequency / Documentation 	<ul style="list-style-type: none"> Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples)³ 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	M	
		<ul style="list-style-type: none"> Log book being maintained⁹ 	<input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No
<ul style="list-style-type: none"> Slope acceptability 	<ul style="list-style-type: none"> Verify calibration slope is acceptable (per mfg. spec.). 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
<ul style="list-style-type: none"> Calibration Method 	<ul style="list-style-type: none"> Standards used for calibration (3 ammonia solutions of 10 mg/l, 1 mg/l, and 0.1 mg/l) or per mfg. spec.¹⁷ 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
		<ul style="list-style-type: none"> Standards used for calibration not expired 	<input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No
<ul style="list-style-type: none"> Other 	<ul style="list-style-type: none"> Electrode free of deposits and foreign material 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
	<ul style="list-style-type: none"> Teflon covered magnetic stirrer or equivalent for mixing¹⁸ 	<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: Orion 9708					
Criteria	Standard Methods Requirement	Acceptable?		Rating	
Sample Collection/Handling					
<ul style="list-style-type: none"> Sample Labeling 	<ul style="list-style-type: none"> Samples container labeled (description, date, time, preservative added, initialed).¹⁹ 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	M	
<ul style="list-style-type: none"> Chain of Custody 	<ul style="list-style-type: none"> Chain of custody (description, date, time, signature).¹⁹ 	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
<ul style="list-style-type: none"> Other 	<ul style="list-style-type: none"> Composite samples refrigerated during sample collection¹⁴ 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
		<ul style="list-style-type: none"> Equipment blanks utilized¹⁴ 	<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No
		<ul style="list-style-type: none"> SOP for cleaning of sampling equipment 	<input type="checkbox"/> Yes		<input checked="" 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 	<ul style="list-style-type: none"> Properly working seals. 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	A	
		<ul style="list-style-type: none"> Desiccant fresh (blue color) 	<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No
<ul style="list-style-type: none"> Documentation 	<ul style="list-style-type: none"> Log book being maintained⁹ 	<input type="checkbox"/> Yes	<input 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 type="checkbox"/> Yes		<input checked="" 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 type="checkbox"/> Yes		<input checked="" type="checkbox"/> No
		<ul style="list-style-type: none"> Equations, calculations, units for all measurements, notations, and results present² 	<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No
		<ul style="list-style-type: none"> Corrections, single line through, initialed and dated² 	<input type="checkbox"/> Yes		<input type="checkbox"/> No
Comments: Documents directly to Excel Spreadsheet. Analyst can be reconciled with Operator log book.					

General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?		Rating
Hot Water Bath (Fecal Coliform/E. Coli)				
<ul style="list-style-type: none"> • Temperature Recordkeeping 	<ul style="list-style-type: none"> • Temperature Log (thermometer reads 0.2° C)²¹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Incubator temperature 44.5° C ± 0.2°^{21/24} 			
<ul style="list-style-type: none"> • Temperature Calibration / Documentation 	<ul style="list-style-type: none"> • Thermometer calibrated annually with NIST traceable thermometer^{1,2} 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Log book being maintained⁹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> • Water Level 	<ul style="list-style-type: none"> • Thermometer total immersion or partial (line on thermometer to ID immersion depth)^{1,5} 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments: Not applicable				

Criteria	Standard Methods Requirement	Acceptable?		Rating
Autoclaves/Steam Sterilizers				
<ul style="list-style-type: none"> • All apparatus utilized is adequately sterilized before use 	<ul style="list-style-type: none"> • Sterilizing temperature 121° C²⁵ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • 10 to 30 minutes time based on material being sterilized²⁶ 		<input type="checkbox"/> Yes	
<ul style="list-style-type: none"> • Documentation 	<ul style="list-style-type: none"> • Verify the autoclave temperature weekly by using a maximum registering thermometer (MRT) to confirm that 121°C has been reached as measured in the exhaust.¹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Date, contents, sterilization time and temperature, total time in autoclave, and analyst's initials should be recorded each time the autoclave is used¹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> • Temperature Calibration / Documentation 	<ul style="list-style-type: none"> • Thermometer calibrated annually with NIST traceable thermometer^{1,2} 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Log book being maintained⁹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> • Performance Checks 	<ul style="list-style-type: none"> • Test monthly for efficacy using a biological such as commercially available <i>Geobacillus stearothermophilus</i> in spore strips, suspensions, or capsules¹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments: Not applicable				

	Acceptable	5
	Marginal	6
	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:	<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