OhioEPA
State of Ohio Environmental Protection Agency

Southeast District Office

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

August 4, 2010

Re: Belmont County
Flushing WWTP
NPDES Permit #0PB00013*ED
Compliance Evaluation Inspection
Correspondence (PWW)

Mayor Barbara Bashline & Village Council
Village of Flushing
P.O. Box 66
Flushing, Ohio 43977

Dear Mayor Bashline and Council Members:

On July 14, 2010, I performed a compliance evaluation inspection (CEI) at the Flushing Wastewater Treatment Plant (WWTP). Rusty Taylor, plant operator and village administrator, and Jeff Vaughn, Operator of Record, represented the village during the inspection.

The purpose of the inspection was to determine the facility's compliance status with the terms and conditions of the NPDES permit, Federal Number OH0025143, State Number 0PB00013*ED. Wastewater samples were not collected. A copy of the inspection report form is attached.

Based on the evaluation of the facility, the Flushing WWTP was found to be in **non-compliance** with the permit on the day of the inspection due to missed NPDES permit compliance schedule milestones, the condition of the collection system, and sludge storage issues.

The following comments/problems were noted as a result of the inspection and review of the records:

1. **Operation and Maintenance** - required by Part III, Item (3) of the NPDES permit.

   a. Flushing has failed to maintain the collection system to prevent inflow and infiltration. In addition, the pump stations are old and in need of complete replacement (see below).

   b. The plant operator must develop Standard Operating Procedures (SOP) and a Quality Assurance/Quality Control Manual for the laboratory. I have attached a laboratory inspection form for the laboratory personnel to review. In the near future I will perform a complete laboratory inspection.

c. There is currently no sludge being digested or dried on the drying beds. Provide a technical explanation of how this method of sludge management is an efficient method of plant operation. It is strongly recommended that the facility begin sludge processing while the weather is good.

Also according to Jacob Howdyshell, Flushing is required to install a storage pad with a drain back into treatment for any storage of sludge not on the sludge beds. When will this be accomplished?

d. The WWTP and pump stations must have operating alarm systems. Provide a timetable when this will be done.

2. **NPDES Permit Part I,C** – Compliance Schedules

Flushing has failed to meet the milestone deadlines contained in the NPDES permit compliance schedule:

a. Failure to submit an Inflow/Infiltration (I/I) Control Plan by June 1, 2010;

b. Failure to submit a list of projects for I/I control by June 1, 2010; and

c. Failure to submit an update of the Pump Station report and a list of pump station projects by June 1, 2010.

In addition Flushing is in violation of Part III, Item D for failure to report these missed deadlines to Ohio EPA.

3. **Certified Operator – Operator of Record**

The NPDES permit Part II, Item B addresses new requirements contained in the Operator Certification rules, OAC 3745-07.

a. Your WWTP is classified as a Class II plant according to the rule. Therefore your Operator of Record must be a Class II wastewater operator. Your Operator of Record is required to be at the WWTP 5 days a week for a total of 20 hours a week minimum. Jeff Vaughn, your current Operator of Record, is not able to spend that amount of time at the plant. A reduction of the required time is possible if you have a class I operator at the plant. However, none of the WWTP staff are certified operators at this time. The village has had a year to address this issue but has not. Provide a plan for how Flushing will provide a class II operator for the required staffing hours. Refer to the attached copy of rule OAC 3745-7-04 for all of your options.

b. Ohio EPA has no record of receiving an Operator of Record form from the village. Please submit a form within 14 days of the receipt of this report.

Please respond to comments 1 through 3 above, in writing, within 30 days of receipt of this notice. If you have any questions, please contact me at (740) 380-5284.

Sincerely,

Ms. Abbot Stevenson
Environmental Engineer
Permits and Enforcement Section
Division of Surface Water

AS/dh

Enclosures

c: Jeff Vaughn, Vaughn, Coast and Vaughn
c: Rusty Taylor, Village Administrator

NPDES
Compliance Inspection Report

A. NATIONAL DATA SYSTEM CODING

Permit No.	NPDES No.	Date	Inspection Type	Inspector	Facility Type
0PB00013*ED	OH0025143	July 14, 2010	C	S	1

B. FACILITY DATA

Name & Location of Facility Inspected	Entry Time	Permit Effective Date
Flushing WWTP Mill Street Flushing, Ohio	11:10 a.m.	June 1, 2009
	Exit Time	**Permit Expiration Date**
	1:45 p.m.	May 31, 2014

Name(s) & Title(s) of On-Site Representative(s)	Phone Number(s)
Jeff Vaughn, Operator of Record Rusty (Russel) Taylor, Village Administrator, Plant Operator	(740) 695-7256
Name, Address, & Title of Responsible Official	**Phone Number**
Mayor Barb Bashline Village of Flushing P.O. Box 66 Flushing, Ohio 43977	(740) 968-3123

C. AREAS EVALUATED DURING INSPECTION

S	Permit	S	Flow Measurement	NA	Pretreatment
S	Records/Reports	M	Laboratory	U	Compliance Schedules
U	Operations & Maintenance	S	Effluent/Receiving Waters	S	Self-Monitoring Program
S	Facility Site Review	U	Sludge Storage/Disposal		Other
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)

1. Operations & Maintenance - Operator of Record issues. See letter Item 3.
2. Collection System - Flushing has severe I/I. See letter Items 1a and 2.
3. Laboratory - The operator needs to develop laboratory standard operating procedures and a QA/QC manual. See letter Item 1b.
4. Sludge - Sludge storage and screening is insufficient. See letter Item 1c.
5. Compliance Schedules - Flushing has missed several deadlines. See letter Item 2.

Abbot Stevenson, Inspector, Ohio EPA, Southeast District Office — Date 8/3/10

Timothy M. Campbell, Reviewer, Ohio EPA, Southeast District Office — Date 8/3/10

E. PERMIT VERIFICATION

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

Comments:

F. COMPLIANCE SCHEDULES/VIOLATIONS

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

Comments:
See attached letter Item 2.

G. OPERATION AND MAINTENANCE

Treatment Facility Properly Operated & Maintained	YES	NO	N/A	N/E
a. Standby power available: Generator: ☒ Dual Feed: ☐	☒	☐	☐	☐
b. Adequate alarm system available for power or equipment failures	☐	☒	☐	☐
c. All treatment units in service other than backup units	☒	☐	☐	☐
d. Sufficient operating staff provided: # of shifts: 1 Days/Week: 8.5 hrs/5 days	☐	☐	☐	☐
e. Operator holds unexpired license of class required by permit. Class: II	☒	☐	☐	☐
f. Copy of certificate of Operator of Record displayed on-site	☐	☒	☐	☐
g. Minimum operator staffing requirements fulfilled (OAC 3745-7)	☐	☒	☐	☐
h. Routine & preventive maintenance schedule/performed on time	☒	☐	☐	☐
i. Any major equipment breakdown since last inspection	☐	☒	☐	☐
j. Operation & maintenance manual provided & maintained	☒	☐	☐	☐
k. Any plant bypasses since last inspection	☐	☒	☐	☐
l. Regulatory agency notified of bypasses: On MORS: ☐ 800 No.: ☐	☐	☐	☒	☐
m. Any hydraulic and/or organic overloads experienced since last inspection	☒	☐	☐	☐

Comments:
b. No alarm system. Operator lives in town. When power goes out he goes to plant. The plant must have an operable alarm system.
d. Plant is checked on weekends.
m. System has inflow/infiltration.

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

Comments:

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

Comments:

SLUDGE MANAGEMENT

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

Comments:
On 3/10/10, Jacob Howdyshell of the Division of Surface Water inspected the WWTP for compliance with Ohio EPA sludge regulations. See his letter dated 4/27/10.

I. SELF-MONITORING PROGRAM

Part 1 – Flow Measurement	YES	NO	N/A	N/E
a. Primary flow measuring device properly operated & maintained. Type of device: ☒ Ultrasonic & parshall flume ☐ Calculated from influent ☐ Weir ☐ Other ☐ Ultrasonic & weir specify:	☒	☐	☐	☐
b. Calibration frequency adequate. Date of last calibration: 6/8/09	☒	☐	☐	☐
c. Secondary instruments (totalizers, recorders, etc.) properly operated and maintained	☒	☐	☐	☐
d. Flow measurement equipment adequate to handle expected ranges of flows	☒	☐	☐	☐
e. Actual flow discharged is measured	☒	☐	☐	☐
f. Flow measuring equipment inspection frequency: ☒ Daily ☐ Monthly ☐ Weekly ☐ Other				

Comments:

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

Comments:

Part 3 – Laboratory, General	YES	NO	N/A	N/E
a. Written Standard Operating Procedures (SOPs) for all analysis performed on-site	☐	☒	☐	☐
b. EPA approved analytical testing procedures used (40 CFR 136.3)	☐	☐	☐	☐
c. If alternate analytical procedures are used, proper approval has been obtained	☐	☒	☐	☐
d. Analyses being performed more frequently than required by permit	☐	☒	☐	☐
e. If (c) is yes, are results reported in permittee's self-monitoring report	☐	☐	☒	☐
f. Commercial laboratory used: 1. Parameters analyzed by commercial lab: O&G, TKN, N+N, Phosphorus, Metals 2. Lab name: Masi				

Comments:

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

Comments:
b. Calibration of balance not recent by equipment manufacturer.

J. EFFLUENT/RECEIVING WATER OBSERVATIONS

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

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

If any of the above are observed, ask the following questions:
1. What is the cause of the conditions?
2. Is the observed condition or source a waste product?
3. Where is the suspected contaminant normally disposed?
4. Is this disposal permitted?
5. How long has the condition existed and when did it begin?

Comments:

General Lab Criteria

Facility:

Criteria	Standard Methods Requirement	Acceptable?		Rating
Balance				
• Standard Weights	• Either NIST Class s or ASTM/ANSI Class 1 weights [1,2]	☐ Yes	☐ No	
• Calibration Frequency /Documentation	• Calibration verification required at least once each day the balance is used.[3]	☐ Yes	☐ No	
• Cleanliness, air movement, vibration	• Cleanliness of balance is a must and air movement and vibration needs to be kept to a minimum[1]	☐ Yes	☐ No	
• Other	• Service and recalibrate annually (manufacturer representative or comparable)[1]	☐ Yes	☐ No	
	• Must be able to measure to 0.1 grams[4]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	
	• Log book maintained[6]	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement	Acceptable?		Rating
Drying Oven (Suspended Solids)				
• Temperature Recordkeeping	• Temperature recorded with each use[4]	☐ Yes	☐ No	
	• Log book maintained[6]	☐ Yes	☐ No	
• Calibration Frequency /Documentation	• Thermometer calibrated annually with NIST traceable thermometer[1,2]. Correction factor posted on thermometer / equipment[1]	☐ Yes	☐ No	
• Other	• Thermometer temperature in 0.1° C increments[5]	☐ Yes	☐ No	
	• Acceptable temperature range is 103° – 105° F [4]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ 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]	☐ Yes	☐ No	
	• Logbook maintained[9]	☐ Yes	☐ No	
• Minimum of 2 point calibration	• Calibration per manufacturer specification and calibration buffers must bracket anticipated result[7]	☐ Yes	☐ No	
• Slope Documentation / Acceptability	• Slope acceptable range indicated on benchsheet[2]	☐ Yes	☐ No	
• Buffer Expiration Date	• Buffers must not be expired	☐ Yes	☐ No	
• Other	• Instrument manual available	☐ Yes	☐ No	
	• Teflon covered magnetic stirrer or equivalent for mixing[8]	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement	Acceptable?		Rating
Dissolved Oxygen Meter				
• Calibration Method	• Air or known DO calibration method[10]	☐ Yes	☐ No	
	• Calibration per manufacturer specification[10]	☐ Yes	☐ No	
• Calibration Frequency	• Logbook maintained[9]	☐ Yes	☐ No	

General Lab Criteria

/ Documentation	• Calibration verification required at least once each day the meter is used.[3]	☐ Yes	☐ No	
• Other	• Small to no bubble present under membrane (must be smaller than the lead in number 2 pencil)[11]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	

Comments:

Criteria	Standard Methods Requirement			Rating
Incubator (CBOD/ E-Coli)		**Acceptable?**		
• Temperature Recordkeeping	• Temperature checked / recorded twice daily for each shelf in use[1]	☐ Yes	☐ No	
	• Acceptable temperature range (CBOD) is 20° C ±1.0°[12]	☐ Yes	☐ No	
	• Acceptable temperature range (E-Coli) is 35° C ±0.5°[22]	☐ Yes	☐ No	
	• Logbook maintained[9]	☐ Yes	☐ No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer[1, 2]	☐ Yes	☐ No	
	• Temperature correction information posted on incubator[1]	☐ Yes	☐ 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]	☐ Yes	☐ No	
• Other	• Instrument manual available	☐ Yes	☐ No	
	• Temperature Log (thermometer reads to 0.1 Celsius).[5]	☐ Yes	☐ No	

Comments:

Criteria	Standard Methods Requirement			Rating
Refrigerator		**Acceptable?**		
• Temperature Recordkeeping	• Temperature Log (thermometer reads to 0.1 Celsius).[5]	☐ Yes	☐ No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer[1, 2]	☐ Yes	☐ No	
• Other	• Thermometer held in water bath.[1]	☐ Yes	☐ No	
	• Refrigerator temperature ≤6° Celsius.[13]	☐ Yes	☐ No	
	• Do not store volatile solvents, food, or beverages.[14]	☐ Yes	☐ No	

Comments:

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

General Lab Criteria

	• Instrument manual available	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Ammonia Meter		**Acceptable?**		
• 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]	☐ Yes	☐ No	
	• Log book being maintained[9]	☐ Yes	☐ No	
• Slope acceptability	• Verify calibration slope is acceptable (per mfg. spec.).	☐ Yes	☐ 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]	☐ Yes	☐ No	
	• Standards used for calibration not expired	☐ Yes	☐ No	
• Other	• Electrode free of deposits and foreign material	☐ Yes	☐ No	
	• Teflon covered magnetic stirrer or equivalent for mixing[18]	☐ Yes	☐ No	
	• Instrument manual available	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Sample Collection/Handling		**Acceptable?**		
• Sample Labeling	• Samples container labeled (description, date, time, preservative added, initialed).[19]	☐ Yes	☐ No	
• Chain of Custody	• Chain of custody (description, date, time, signature).[19]	☐ Yes	☐ No	
• Other	• Composite samples refrigerated during sample collection[14]	☐ Yes	☐ No	
	• Equipment blanks utilized[14]	☐ Yes	☐ No	
	• SOP for cleaning of sampling equipment	☐ Yes	☐ No	
	• Logbook being maintained[9]	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Desiccator		**Acceptable?**		
• General criteria	• Properly working seals.	☐ Yes	☐ No	
	• Desiccant fresh (blue color)	☐ Yes	☐ No	
• Documentation	• Log book being maintained[9]	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Bench sheets		**Acceptable?**		
• General criteria	• Date(s)[2]	☐ Yes	☐ No	
	• Analyst initials[2]	☐ Yes	☐ No	
	• Blue or black ink pen[2]	☐ Yes	☐ No	
	• Calibration information[2]	☐ Yes	☐ No	
	• Equations, calculations, units for all measurements, notations, and results present[2]	☐ Yes	☐ No	
	• Corrections, single line through, initialed and dated[2]	☐ Yes	☐ No	
Comments:				

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
Hot Water Bath (Fecal Coliform/E. Coli)		**Acceptable?**		
• Temperature Recordkeeping	• Temperature Log (thermometer reads 0.2° C)[21]	☐ Yes	☐ No	
	• Incubator temperature 44.5° C ± 0.2° [21/24]			
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer [1, 2]	☐ Yes	☐ No	
	• Log book being maintained [9]	☐ Yes	☐ No	
• Water Level	• Thermometer total immersion or partial (line on thermometer to ID immersion depth) [1, 5]	☐ Yes	☐ No	
Comments:				

Criteria	Standard Methods Requirement			Rating
Autoclaves/Steam Sterilizers		**Acceptable?**		
• *All apparatus utilized* is adequately sterilized before use	• *Sterilizing temperature* 121° C [25]	☐ Yes	☐ No	
	• 10 to 30 minutes time based on material being sterilized[26]	☐ Yes	☐ 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]	☐ Yes	☐ 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]	☐ Yes	☐ No	
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer [1,2]	☐ Yes	☐ No	
	• Log book being maintained [9]	☐ Yes	☐ No	
• Performance Checks	• Test monthly for efficacy using a biological such as commercially available *Geobacillus stearothermophilus* in spore strips, suspensions, or capsules [1]	☐ Yes	☐ No	
Comments:				

Number of Criteria Rated:	**Acceptable**	
	Marginal	
	Unacceptable	
	Total Number of Areas Rated	

Acceptable Ratings – No action required (recommend SOP's written or updated, perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, written response not required).

Marginal Ratings – Improvements required, written response required (recommend SOP's be written or updated, recommend they perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, require deficiencies to be addressed in written response).

Unsatisfactory Rating - Improvements required, written response required, NOV issued (recommend SOP's be written or updated, recommend they perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, require deficiencies to be addressed in written response to NOV).

Consider recommending PAI Audit from DES when:	>60% of ratings are Marginal >45% of ratings are a combination of Marginal or Unacceptable >30% of ratings are Unacceptable

General Lab Criteria

Notation of Referenced Method

1	Method 9020-B, Item 4	14	Method 1060A, Item 1
2	Method 1020-A, Item 1	15	Method 4500-Cl I, Item 2
3	Method 1020-B, Item 10	16	Method 4500-Cl 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 ≤6° C	6h	48h
TSS	P, G	200	G, C	Refrigerate ≤6° 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 ≤6° 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 ≤6° C	7 d	14 d
Base/Neutrals and acids	G (solvent rinsed or baked)	1000	C, G	Refrigerate ≤6° C	7 d	7 days until extraction 40 days after extraction
Pesticides	G (PTFE lined lid)	1000	C	Refrigerate ≤6° C	7 d	7 days until extraction 40 days after extraction
Fecal Coliform / E-Coli	G, P (Sterilized)	100	G	Refrigerate ≤10° 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 ≤6° 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