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

July 25, 2013

Re: Belmont County
Village of Powhatan Point WWTP
Compliance Evaluation Inspection
Ohio EPA Permit 0PB00033*FD

Mayor McVey and Board of Public Affairs
Village of Powhatan Point
104 Mellott Street
Powhatan Point, Ohio 43942

Dear Mayor McVey and Board Members:

On July 2, 2013, I conducted a compliance evaluation inspection of the Powhatan Point Wastewater Treatment Plant (WWTP). Paul McCloud, Wastewater Superintendent, represented the village during the plant inspection.

The purpose of the inspection was to evaluate the WWTP's status of compliance with the NPDES permit, federal number OH0027383, state number 0PB00033*FD. Wastewater samples were not taken. A copy of the inspection report form is attached.

As a result of the inspection and file review I have the following comments:

1. A review of the facility's discharge monitoring reports (DMRs) from June 2012 to present shows two limit violations for exceeding the permit limit for Fecal Coliform at outfall 001. These violations occurred in July 2012. No effluent violations were noted in 2013.

2. In accordance with Part III, Paragraph 5 of your NPDES permit, test procedures for the analysis of pollutants shall conform to 40 CFR 136. The following deficiencies were noted during the lab portion of the inspection:

   a. pH meter calibration verification must be completed at a minimum once every day the meter is used.
   b. The buffers used to calibrate the pH meter are currently expired.
   c. Dissolved Oxygen (DO) meter calibration verification must be completed at a minimum once every day the meter is used.
   d. A temperature log book shall be maintained for the refrigerator.
   e. The thermometer in the refrigerator must be calibrated annually with a NIST traceable thermometer.

   Please address these deficiencies and notify Ohio EPA when these deficiencies are completed.

3. The current NPDES contains a compliance schedule to create an ongoing inflow and infiltration (I/I) control plan. Please provide a schedule of projects that remain from your initial control plan. In addition, a summary of all actions to minimize I/I for the previous calendar year shall be submitted annually by January 15. Due to recent change in staff at Ohio EPA, please provide copies of the last two calendar year reports. If these annual reports were not completed and provided to Ohio EPA, you must create and submit this report immediately.

4. During the inspection it was noted that water was/is accumulating at the bottom of the steps in the building containing the plate separators. The facility shall keep the building free of excess water.

5. It was noted during the lab inspection that written Standard Operating Procedures (SOPs) did not exist for any of the analysis performed on-site. SOPs shall be used in the lab in sufficient detail that a competent analyst unfamiliar with the method can conduct a reliable review and/or obtain acceptable results. SOPs shall be created for all analysis performed on-site. Please reference page 8, Item (b) of the inspection report for required information on SOPs.

6. In accordance with Ohio Administrative Code 3745-40-02, "By July 1, 2015, prior to the beneficial use of biosolids, influent wastewater and septage, or sewage sludge at a treatment works must be treated by a process such as physical screening or another method to significantly remove manufactured inerts." Currently, the WWTP does not have a screen that will meet the requirements to this rule. A Plan shall be made to address this deficiency and comply with this rule by July 1, 2015.

7. In accordance with Part III, Item 3 of your NPDES permit: "...At all times, the permittee shall maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee necessary to achieve compliance with the terms and conditions of this permit..."

   The Imhoff tank is showing signs of age and the village should begin planning for a plant upgrade to address the aging infrastructure.

Please provide a written response to comments 2 through 6 listed above within thirty (30) days from the date of this letter. If there are any questions, please contact me at (740) 380-5416.

Sincerely,

Nicholas G. Hammer
Environmental Specialist
Division of Surface Water

NH/dh

Enclosure

c: Paul McCloud, Supt.

State of Ohio Environmental Protection Agency
Southeast District Office

Municipal NPDES Compliance Inspection Report

Section A: National Data System Coding					
Permit #	**NPDES #**	**Month/Day/Year**	**Inspection Type**	**Inspector**	**Facility Type**
0PB00033*FD	OH0027219	7/2/2013	C	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	**Entry Time**	**Permit Effective Date**
Powhatan Point WWTP Riverside Drive Powhatan Point, OH 43942	10:30 AM	8/1/2009
	Exit Time	**Permit Expiration Date**
	12:30 PM	7/31/2014
Name(s) and Title(s) of On-Site Representative(s)	**Phone Number(s)**	
Paul McCloud, Superintendent	740-795-5917	
Name, Address, and Title of Responsible Official	**Phone Number**	
Mayor Mark McVey Village of Powhatan Point 104 Mellott Street Powhatan Point, OH 43942	740-795-4201	

Section C: Areas Evaluated During Inspection

(S = Satisfactory; M = Marginal; U = Unsatisfactory; N = Not Evaluated; N/A = Not Applicable)

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

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

See Attached Letter.

Inspector	Reviewer
Nicholas G. Hammer 7-25-13	Jennifer M. Witte 7/25/13
Nicholas G. Hammer Date Division of Surface Water Southeast District Office	**Jennifer M. Witte** Date Compliance & Enforcement Supervisor Division of Surface Water Southeast District Office

Sections E through K: Complete on all inspections as appropriate
Y = Yes; N = No; N/A = Not Applicable; N/E = Not Evaluated

Section E: Permit Verification

Inspection observations verify the permit

(a)	Correct name and mailing address of permittee	Y
(b)	Flows and loadings conform with NPDES permit	Y
(c)	Treatment processes are as described in permit application	Y
(d)	All discharges are permitted	Y
(e)	Number and location of discharge points are as described in permit	Y
(f)	Storm water discharges properly permitted	Y

Comments/Status:

Section F: Compliance

(a)	Any significant violations since the last inspection	N
(b)	Appropriate Non-compliance notification of violations	N/A
(c)	Permittee is taking actions to resolve violations	Y
(d)	Permittee has a compliance schedule	Y
(e)	Compliance schedule contained in	Y
(f)	Permittee is in compliance with schedule	Y
(g)	Has biomonitoring shown toxicity in discharge since last inspection	N/A

Comments/Status:

(e) Compliance Schedule contained in current NPDES permit.

Section G: Operation and Maintenance

Treatment Works:

Treatment facility properly operated and maintained

(a) Standby power available generator ☒ or dual feed ☐ ..... Y

i. What does the back-up power source operate

Entire Plant

ii. How often is the generator tested under load

Once a Week

(b) Which components have an alarm system available for power or equipment failures

High water alarms on all pumps

(c) All treatment units in service other than backup units ..... Y

(d) What method is used for scheduling routine and preventative maintenance (calendar, software, etc.)

Calendar

(e) Any major equipment breakdown since last inspection ..... Y

(f) Operation and maintenance manual provided and maintained ..... Y

(g) Any plant bypasses since last inspection ..... N

(h) Any plant upsets since last inspection ..... N

Comments/Status:

(d) RBC unit 1 was down for several weeks in March 2013 while the gearbox and shaft were repaired.

Record Keeping/Operator of Record:

(a) Wastewater Treatment Works classification (OAC 3745-7) II

(b) Operator of Record holds unexpired license of class required by Permit ..... Y

(c) Copy of certificate of Operator of Record displayed on-site ..... Y

(d) Has the Operator of Record submitted an ORC Notification form ..... Y

(e) Minimum operator staffing requirements fulfilled (OAC 3745-7) ..... Y

(f) If a Staffing Reduction plan has been approved, are the stipulations of the plan being met ..... N

(g) Operator of Record log book provided ..... Y

(h) Format of log book (e.g. computer log, hard bound book)

Daily Logs

(i) Log book kept onsite (in an area protected from weather) ..... Y

(j) Log book contains the following:

I. Identification of treatment works ..... Y

II. Date/times of arrival/departure for Operator of Record and any other operator required by OAC 3745-7 ..... Y

III. Daily record of operator and maintenance activities (including preventative maintenance, repairs and request for repairs, process control test results, etc.) ..... Y

IV. Laboratory results (unless documented on bench sheets) ..... Y

V. Identification of person making entries ..... Y

(k) Has the Operator of Record submitted written notifications to the permittee, Ohio EPA and, if applicable, any local environmental agencies when a collection system overflow, treatment plant bypass or effluent limit violation has occurred ..... Y

Comments/Status:

Collection System:

(a)	Are there pump stations in the collection system	Y
	I. How many publicly-owned pump stations equipped with permanent standby power or equivalent	0
	II. How many pump stations have telemetered alarms	0
	III. How many pump stations have operable alarms	2
(b)	Any chronic collection system overflows since last inspection	N
(c)	Regulatory agency notified of all overflows	Y
(d)	Are there CSOs in the collection system	N

If so, what is the LTCP status

N/A

(e) How are CSOs monitored (chalk, block, level sensor, etc.)

N/A

(f)	Portable pumps available for collection system maintenance	Y
(g)	RDII Program established and active	Y
(h)	Any WIB complaint received since last inspection	Y
(i)	Is there a WIB response plan	Y
(j)	Is any portion of the collection system at or near dry weather capacity	N

Comments/Status:

Based on flow data over the last 5 years, during periods of rain events, the swing in flow received at the plant has decreased. The Village's I/I reductions have had an impact. Village shall continue to identify and remove sources of I/I.

Section H: Sludge Management

(a) Method of Sludge Disposal.....

- ☒ Land Application
- ☐ Haul to Another NPDES Permittee
- ☐ Haul to a Mixed Solid Waste Landfill

*if one of the selected methods is land application, complete applicable charts.

Class A – Exception Quality Sewage Sludge (monitoring station 584)

Pathogen Reduction Alternative	84370 Vector Attraction Reduction Options							
	Option 1 – 38% Volatile Solids Reduction	Option 2 – Anaerobic Bench Scale Analysis	Option 3 – Aerobic Bench Scale Analysis	Option 4 – Specific Oxygen Uptake Rate	Option 5 – Aerobic Time and Temperature	Option 6 – Alkali Addition	Option 7 - >75% Solids without Unstabilized Solids	Option 8 - >75% Solids with Unstabilized Solids
Alternative 1 – Time and Temperature Regime (84369)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 – High pH and High Temperature (84369)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 3 – Other Processes (84369)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 4 – Unknown Processes (84369)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Composting (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Heat Drying (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Heat Treatment (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Thermophilic Aerobic Digestion (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Beta Ray Irradiation (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Gamma Ray Irradiation (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Pasteurization (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 6 – Approved Equivalent Process	☐	☐	☐	☐	☐	☐	☐	☐

Class B – Sewage Sludge (monitoring station 581)

Pathogen Reduction Alternative	84370 Vector Attraction Reduction Options									
	Option 1 – 38% Volatile Solids Reduction	Option 2 – Anaerobic Bench Scale Analysis	Option 3 – Aerobic Bench Scale Analysis	Option 4 – Specific Oxygen Uptake Rate	Option 5 – Aerobic Time and Temperature	Option 6 – Alkali Addition	Option 7 - >75% Solids without Unstabilized Solids	Option 8 - >75% Solids with Unstabilized Solids	Option 9 – Land Injection	Option 10 – Immediate Incorporation
Alternative 1 – Geometric Mean of Seven Fecal Samples (84369)	☒	☐	☐	☐	☐	☐	☐	☐	☐	☒
Alternative 2 – Aerobic Digestion (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 – Air Drying (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 – Anaerobic Digestion (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 – Composting (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 – Lime Treatment (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 3 – Approved Equivalent Process	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

(b) Has amount of sludge generated changed significantly since the last inspection ..... N

(c) How much sludge storage is provided at the plant

6+ months

(d) Records kept in accordance with State and Federal law (5 years according to OAC 3745-40-06) ..... Y

(e) Any complaints received in last year regarding sludge ..... N

(f) 5/8" screen at headworks for facilities that land apply sludge ..... N

(g) Are sludge application sites inspected to verify compliance with NPDES permit ..... Y

(h) Is a contractor used for sludge disposal ..... N

If so, what is the name of the contractor

N/A

Comments/Status:

(f) No screen at headworks, muffin monster present. WWTP has until July 1, 2015 to comply with 5/8" screen requirement in OAC 3745-40-02 (C)(3).

Section I: Self-Monitoring Program

Flow Measurement:

(a) Primary/Secondary flow measuring devices (e.g. weir with ultrasonic level sensor)

Ultrasonic on effluent prior to chlorination

(b) Flow meter calibrated annually ..... Y

Date of last calibration

January 2013

(c) 24-hour recording instruments operated and maintained ..... Y

(d) Flow measurement equipment adequate to handle full range of flows ..... Y

(e) All discharged flow is measured ..... Y

Comments/Status:

Sampling:

(a) Sampling location(s) are as specified by permit ..... Y

(b) Parameters and sampling frequency agree with permit ..... Y

(c) Permittee uses required sampling method (see GLC page) ..... Y

(d) Monitoring records (i.e., flow, pH, DO) maintained for a minimum of three years including all original strip chart recordings (i.e., continuous monitoring instrumentation, calibration and maintenance records) ..... Y

Comments/Status:

Laboratory:

General

(a) Does the Quality Assurance Manual contain written Standard Operating Procedures (SOP's) for all analysis performed onsite ..... N

(b) Do SOP's include the following if applicable ..... N

- Title
- Scope and Application
- Summary
- Sample Handling & Preservation
- Interferences
- Apparatus and Materials
- Reagents
- Procedure
- Calculations
- Quality Control
- Maintenance
- Corrective Action
- Reference (Parent Method)

Note: Standard Methods 1020A establishes that "Quality assurance (QA) is the definitive program for laboratory operation that specifies the measure required to produce defensible data of know precision and accuracy. Standard operating procedures are to be used in the laboratory in sufficient detail that a competent analyst unfamiliar with the method can conduct a reliable review and/or obtain acceptable results." SOPs should be developed for each analytical procedure.

(c) EPA approved analytical testing procedures used (40 CFR 136.3) ..... Y

(d) If alternate analytical procedures are used, proper approval has been obtained ..... N/A

(e) Analyses being performed more frequently than required by permit ..... N

(f) If (e) is yes, are results in permittee's self-monitoring report ..... N/A

(g) Satisfactory calibration and maintenance of instruments/equipment (see score from GLC page) ..... N

(h) Commercial laboratory used ..... Y

Parameters analyzed by commercial lab: **All but pH, DO, Temp., and Chlorine**

Lab name: **MASI**

Discharge Monitoring Report Quality Assurance (DMRQA)

(a) Participation in latest USEPA quality assurance performance sampling ..... N/A

Date:

(b) Were any parameters "Unsatisfactory" ..... N/A

(c) Reasons for "Unsatisfactory" parameters

N/A

Comments/Status:

SOPs need written for all analysis performed on-site.
DO and pH meters must be calibrated at least every day the meters are used. Include this information in the calibration log book.
See attached general lab criteria sheet.

Section J: Effluent/Receiving Water Observations

Outfall #: **001**
Outfall Description: **Large flow in river due to recent rains, Discharge is visible from the river bank.**

Receiving Stream: **Ohio River**
Receiving Stream Description: **Clear, no odor observed.**

Comments/Status:

Section K: Multimedia Observations

(a)	Are there indications of sloppy housekeeping or poor maintenance in work & storage areas or laboratories	Y
(b)	Do you notice staining or discoloration of soils, pavement or floors	N
(c)	Do you notice distressed (unhealthy, discolored, dead) vegetation	N
(d)	Do you see unidentified dark smoke or dust clouds coming from sources other than smokestacks	N
(e)	Do you notice any unusual odors or strong chemical smells	N
(f)	Do you see any open or unmarked drums, unsecured liquids, or damaged containment facilities	N

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

Comments/Status:

(a) Standing water in room below the plate separators observed.

General Lab Criteria

Facility: Powhatan Point WWTP

Criteria	Standard Methods Requirement	Acceptable?		Rating
Balance				
• Standard Weights	• Either NIST Class s or ASTM/ANSI Class 1 weights[1,2]	☐ Yes	☐ No	N/A
• 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	N/A
	• 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	U
	• Log book 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: Calibration must be performed at minimum every day the meter is used. Replace expired buffers.				

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
Dissolved Oxygen Meter		**Acceptable?**		
• Calibration Method	• Air or known DO calibration method[10]	☒ Yes	☐ No	**M**
	• Calibration per manufacturer specification[10]	☒ Yes	☐ No	
• Calibration Frequency/ Documentation	• Logbook maintained[9]	☒ Yes	☐ No	
	• 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: Meter shall be calibrated at minimum every day the meter is used.				

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	**N/A**
	• Temperature checked/recorded daily[2] (CBOD)	☐ 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 mg), 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	**U**
• 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: A Temperature log book shall be maintained and the thermometer shall be calibrated annually.				

Criteria	Standard Methods Requirement			Rating
Chlorine Meter		**Acceptable?**		
• Calibration Frequency/ Documentation	• pH/millivolt meter read to 0.1 mV[15]	☐ Yes	☐ No	**N/A**
	• 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	☐ Yes	☐ No	

General Lab Criteria

	or calibration per manufacturer specification[16]			
	• 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	
	• 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	**N/A**
	• 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	**A**
• 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	
	• Log book being maintained[9]	☒ Yes	☐ No	
Comments:				

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

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
Bench Sheets		**Acceptable?**		
• General Criteria	• Date(s)[2]	☒ Yes	☐ No	**A**
	• 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:				

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	**N/A**
	• Incubator temperature 44.5° C ±0.2° [21/24]	☐ Yes	☐ No	
• 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	**N/A**
	• 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:				

General Lab Criteria

Criteria	Standard Methods Requirement			Rating
Final Effluent Temperature Monitoring		**Acceptable?**		
• General Criteria	• Thermometer calibrated annually with NIST traceable thermometer[1,2]	☒ Yes	☐ No	A
	• Thermometer reads in increments of at least 0.1°C[5]	☒ Yes	☐ No	
	• Log book being maintained[2]	☒ Yes	☐ No	
Comments:				

Number of Criteria Rated:	**Acceptable**	3
	Marginal	1
	Unacceptable	2
	Total Number of Areas Rated	7

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	G, C	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 Methods 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