



John Kasich, Governor
Mike DeWine, Governor
Paul L. Vandermeer, Director

November 13, 2012

Jack Liggett, Service Director
Village of Johnstown
PO Box 457
Johnstown, OH 43031

**Re: Johnstown WWTP
NPDES Permit 4PC00001/ OH0020508
Compliance Evaluation Inspection
Licking County**

Dear Mr. Liggett:

On November 5, 2012, a Compliance Evaluation Inspection was conducted at the Johnstown WWTP. Present for the inspection were Glen Hacker and yourself representing the Village of Johnstown and myself of the Ohio EPA, Central District Office, Division of Surface Water.

The purpose of the inspection was to evaluate compliance with the terms and conditions of your NPDES permit and to evaluate the operation and maintenance of the plant. Please see the attached inspection report and lab criteria evaluation for the details of the inspection.

If you have any questions or comments concerning the enclosed inspection report, please contact me at (614) 728-3854 or e-mail at paul.vandermeer@epa.ohio.gov.

Sincerely,

Paul L. Vandermeer
Environmental Specialist
Compliance and Enforcement Unit
Division of Surface Water
Central District Office

cc: Paul L. Vandermeer

PLV/hsm Johnstown CEI

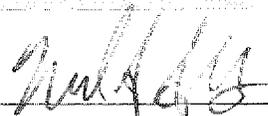
NPDES Compliance Inspection Report

SECTION A: NATIONAL DATA SYSTEM CODING				
Permit #	NPDES #	Inspection Type	Inspector	Facility Type
4PC00001	OH0020506	CTI	S	I
Inspection Date	Entry Time	Exit Time	Notice of Violation	Significant Non-Compliance
11/5/2012	9:30 am	12:20 pm	No	No

SECTION B: FACILITY DATA	
Name and Location of Facility Inspected	Permit Effective Date
Johnstown WWTP 470 W. Jersey Rd. Johnstown, OH 43031	7/1/2012
	Permit Expiration Date
	6/30/2017
Name(s) and Title(s) of On-Site Representatives	Phone Numbers
Glen Hacker, Chief Operator	(740) 967-7201
Name and Title of Responsible Official	Phone Number
Jack Liggett, Service Director	(740) 967-4746

SECTION C: AREAS EVALUATED DURING INSPECTION		
Key: S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated		
S	NPDES Compliance	No copper violations for over 6 months. June 2012 reporting issues have been resolved.
S	Operations & Maintenance	
S	Facility Site Review	
S	Collection System	
S	Flow Measurement	
S	Receiving Waters	
U	Laboratory	See comments on Lab Criteria form (attached)

Comments:

Signatures			
	11/6/12		11/6/12
Paul L. Vandermeer, Inspector Compliance & Enforcement Division of Surface Water Central District Office	Date	Mike Gallaway, Reviewer Section Manager Division of Surface Water Central District Office	Date

Compliance Data for Johnstown WWTP between 1/1/2012 to 11/1/2012

Summary

Permit Effluent Limit Violations: 4
 Permit Effluent Code Violations: 0
 Permit Effluent Frequency Violations: 0
 Compliance Schedule Violations: 0

Limit Violations						
Reporting Period	Section	Parameter	Limit Type	Limit	Reported Value	Violation Date
January 2012	001	Copper, Total Recovera	30D Conc	18	19.	1/1/2012
January 2012	001	Copper, Total Recovera	30D Qty	0.082	.11552	1/1/2012
February 2012	001	Copper, Total Recovera	30D Conc	18	19.	2/1/2012
March 2012	001	Copper, Total Recovera	30D Conc	18	20.	3/1/2012

Flow Data for Johnstown WWTP between 1/1/2012 and 11/1/2012

	Date	Flows (MGD)
Ten Highest Flows	1/27/2012	2.516
	1/17/2012	1.699
	1/23/2012	1.548
	5/8/2012	1.478
	5/2/2012	1.420
	1/26/2012	1.402
	3/9/2012	1.400
	1/18/2012	1.327
	5/5/2012	1.325
	3/8/2012	1.296
Average Flow Rate		0.569

SECTION D: PERMIT VERIFICATION

- (a) Correct name and mailing address of permittee Y
- (b) Correct name and location of receiving water body Y
- (c) Products and production rates conform with permit application Y
- (d) Flows and loadings conform with NPDES permit..... Y
- (e) Treatment processes are as described in permit application Y
- (f) New treatment process added since last inspection N
- (g) Notification given to State of new, different or increased discharges NA
- (h) All discharges are permitted..... Y
- (i) Number and location of discharge points are as described in permit..... Y

Comments:

SECTION E: COMPLIANCE

- (a) Any significant violations since the last inspection Y*
- (b) Permittee is taking actions to resolve violations Y*
- (c) Permittee has a compliance schedule Y*
- (d) Permittee is meeting compliance schedule Y*

Comments: **Copper violations were problematic up until March, 2012. They have since dissipated. The Village has surmised that the copper was introduced by septage hauler(s) through the septage disposal station at the WWTP. The Village has taken measures to ensure that septage haulers are educated regarding the types of waste that the WWTP can accept and those haulers that have had difficulty respecting these parameters are now excluded. The NPDES permit contains a compliance schedule requiring a copper pollutant minimization plan (PMP). The Village is required by the PMP to submit a control strategy for copper by July 1, 2013. Continued compliance with copper limits for the next 6 months will determine the nature of the control strategy and whether or not additional control measures may be necessary. The current strategy (excluding certain septage contractors) seems to be working for the present.*

SECTION F: OPERATION AND MAINTENANCE

- (a) Standby power available Y
If yes, what type? *Diesel generator*
- (b) Adequate alarm system available for power or equipment failures Y
- (c) All treatment units in service other than backup units Y
- (d) Wastewater Treatment Works classification III
- (e) Operator of Record holds unexpired license of class required by Permit.. Y
Class held: *III*
- (f) Copy of certificate of Operator of Record displayed on-site Y
- (g) Minimum operator staffing requirements fulfilled Y
- (h) Routine and preventative maintenance scheduled and performed Y
- (i) Any major equipment breakdown since last inspection N

- (j) Operation and maintenance manual provided and maintained Y
- (k) Any plant bypasses since last inspection N
- (l) Regulatory agency notified of bypasses NA
 By MOR and/or Spill Hotline (1-800-282-9378)
- (m) Any hydraulic or organic overloads since last inspection N

Comments:

SECTION G: RECORD KEEPING

- a) Log book provided Y
- b) Format of log Computer
- c) Log book(s) kept onsite in an area protected from weather Y
- d) Log book contains the following:
 - i) Identification of treatment works Y
 - ii) Date/times of arrival/departure for Operator of Record and any other operator required by OAC 3745-7 Y
 - iii) Daily record of operation and maintenance activities (including preventative maintenance, repairs and request for repairs) Y
 - iv) Laboratory results (unless documented on bench sheets) bench
 - v) Identification of person making log entries Y
- e) Has the Operator of Record submitted written notification to the permittee, Ohio EPA and any applicable local environmental agencies when a collection system overflow, treatment plant bypass or effluent limit violation has occurred? ... Y

Comments:

SECTION H: COLLECTION SYSTEM

- a) Percent combined system: 0%
- b) Any collection system overflows since last inspection N
 CSO SSO
- c) Regulatory agency notified of overflows NA
- d) CSO O&M plan provided and implemented NA
- e) CSOs monitored and reported in accordance with permit NA
- f) Portable pumps are used to relieve system N
- g) Lift station alarms provided and maintained Y
- h) Lift stations equipped with permanent standby power or equivalent Y*
- i) Is there an inflow/infiltration problem (separate sewer system), or were there any major repairs to collection system since last inspection. Y^
- j) Any complaints received since last inspection of basement flooding N
- k) Are any portions of the sewer system at or near capacity N
- l) Are operations changed during high-flow events? Y**

Comments: *The Village is installing new backup generators at lift stations that do not have standby power. This should be completed in the near future. ^As street pavement

repairs are made around the Village, the sanitary and storm sewers are rehabilitated as needed. **The sequencing batch reactors at the WWTP automatically switch into a "storm mode" where the treatment process is accelerated based on rising flows. This has not created any problems with compliance.

The inspection included visiting 4 lift stations including those at the Kyber Run, Westview, Croton Road, and Kroger locations. All lift stations were well maintained. Each one is checked on a daily basis and cleaned when needed. The Kroger lift station receives a great deal of oil and grease which causes increased maintenance at this particular station. The Village shall continue to research causes of this problem and attempt to implement solutions to the problem (e.g., institute a FOG program, etc.).

SECTION I: SLUDGE MANAGEMENT

- a) Sludge adequately disposed..... Y
 Method: *Land application*
- b) If sludge is incinerated, where is ash disposed of..... NA
- c) Is sludge disposal contracted..... N
 Name:
- d) Has amount of sludge generated changed significantly..... N
- e) Adequate sludge storage provided at plant..... Y*
- f) Records kept in accordance with State and Federal law Y
- g) Any complaints received last year regarding sludge..... N
- h) Is sludge adequately processed (digestion, pathogen control) Y

Comments: **New sludge storage area under construction.*

SECTION J: SELF-MONITORING PROGRAM

- a) Primary flow measuring device operated and maintained..... Y
 Type of device: *Magmeter* Device location: *Effluent flume*
- b) Calibration frequency adequate Y
 Date of last calibration: *3/13/12*
- c) Secondary instruments operated and maintained..... NA
- d) Flow measurements equipment adequate to handle full range of flows.... Y
- e) Actual flow discharged is measured..... Y
- f) Flow measuring equipment inspection frequency Daily
- g) Sampling location(s) are as specified by permit..... Y
- h) Parameters and sampling frequency agree with permit..... Y*
- i) 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).....

Comments: *June, 2012 sampling was entered into eDMR under the *JD version of the permit instead of the *ID version of the permit. This caused issues with sampling frequency violations. The issue cannot be remedied, so this will continue to show up*

as a violation even though the data has been submitted. This was not the fault of the Village and will not be pursued by the Agency.

SECTION K: Laboratory

- a) EPA applicable analytical testing procedures used (40 CFR 136.3)..... Y
- b) If alternate procedures are used, are they properly approved? NA
- c) Analysis performed more frequently N
 if yes, are results recorded in permittee's report? NA
- d) Commercial laboratory used:
 Name: *MASI Laboratory*
 Parameters analyzed: *Total phosphorus, metals, E. coli, TDS*
- e) Quality assurance manual provided and maintained N*
- f) Calibration and maintenance of instruments is satisfactory? Y

Comments: **The WWTP laboratory must institute some changes to incorporate appropriate quality assurance and quality control for the analyses performed in-house. See the attached Lab Criteria evaluation for further details. Please contact Paul Vandermeer with appropriate responses to the problems and issues noted in the evaluation by January 31, 2013. See also the link to the method update rule (<http://www.gpo.gov/fdsys/pkg/FR-2012-05-18/pdf/2012-10210.pdf>)*

SECTION L: EFFLUENT/RECEIVING WATER OBSERVATIONS

Outfall Number	Outfall sign in place	Oil Sheen	Grease	Turbidity	Foam	Solids	Color	Other
001	Yes	None	None	None	None	None	Clear	

Comments:

General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?		Rating
Balance				
• Standard Weights	• Either NIST Class S or ASTM/ANSI Class 1 weights ^{1,2}	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
• 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 ²	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Comments : WEIGHTS NEED CALIBRATION VERIFICATION AS NEEDED LOG BOOK NEEDED (COMPUTER LOG OK FOR <u>ALL</u> BELOW) → #				
Drying Oven (Suspended Solids)				
Drying Oven (Suspended Solids)				
• Temperature Recordkeeping	• Temperature recorded with each use ⁴	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
	• Log book maintained ²	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
• 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 accurate to 0.5° Celsius ⁵	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Acceptable temperature range is 103° - 105° C ⁴	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Instrument manual available	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments : NIST CALIBRATION & CORRECTION NEEDED LOG (COMPUTER OR OTHERWISE) NEEDED SOPs NEEDED #				

General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?		Rating
pH Meter				
• Calibration Frequency / Documentation	• Calibration verification required for trending over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples) ¹	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Logbook maintained ² *	<input checked="" type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
• Minimum of 2 point calibration	• Calibration per manufacturer specification and calibration buffers must bracket anticipated result ⁷	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Slope Documentation / Acceptability	• Slope acceptable range indicated on benchsheet ²	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Buffer Expiration Date	• Buffers must not be expired	<input 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 :

* ADD COMMENTS SECTION, DETAIL ANY MAINTENANCE

SOP NEEDED

#

Criteria	Standard Methods Requirement	Acceptable?		Rating
Dissolved Oxygen Meters				
• Calibration Method	• Air or known DO calibration method ¹⁰	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Calibration per manufacturer specification ¹⁰	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Calibration Frequency / Documentation	• Logbook maintained ² *	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Calibration verification required at least once each day the meter is used. ³	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Small to no bubble present under membrane (must be smaller than the lead in number 2 pencil) ¹¹	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Instrument manual available	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments:

ADD COMMENTS SECTION, DETAIL ANY MAINTENANCE

SOP NEEDED

#

General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?		Rating
Incubator (CBOD/ E-Coli)				
• Temperature Recordkeeping	• Temperature checked / recorded twice daily for each shelf in use ¹ (E-Coli) N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Temperature checked / recorded daily ² (CBOD)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Acceptable temperature range (CBOD) is 20° C ±1.0° ¹²	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Acceptable temperature range (E-Coli) is 35° C ±0.5° ²² N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Logbook maintained ²	<input type="checkbox"/> Yes	<input checked="" 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 N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Instrument manual available	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Temperature Log (thermometer accurate to 0.5 Celsius). ¹	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

Comments :

SOP NEEDED
#

Criteria	Standard Methods Requirement	Acceptable?		Rating
Refrigerator:				
• Temperature Recordkeeping	• Temperature Log (thermometer accurate to 0.5 Celsius). ¹	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
• 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 type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
	• Refrigerator temperature ≤6° Celsius. ¹³	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Do not store volatile solvents, food, or beverages. ¹⁴	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments:

*ELECTRONIC THERMOMETER OK
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General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?		Rating
Chlorine Meter				
• Calibration Frequency / Documentation	• pH / millivolt meter read to 0.1 mV ¹⁵	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples) ³	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Calibration Method	• Calibration using three iodate solutions 0.2, 1.0, 5.0 milliliters or calibration per manufacturer specification ¹⁶	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Standards used for calibration not expired	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Slope Documentation / Acceptability	• Calibration curve (acceptable slope)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Electrode free of deposits and foreign material	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book being maintained. ²	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Instrument manual available	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments :

SECTION NOT APPLICABLE

Criteria	Standard Methods Requirement	Acceptable?		Rating
Ammonia Meter				
• Calibration Frequency / Documentation	• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples) ³	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book being maintained ²	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
• Slope acceptability	• Verify calibration slope is acceptable (per mfg. spec.).	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Calibration Method	• Standards used for calibration (3 ammonia solutions of 10 mg/l, 1 mg/l, and 0.1 mg/l) or per mfg. spec. ¹⁷	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Standards used for calibration not expired	<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	
	• Teflon covered magnetic stirrer or equivalent for mixing ¹⁸	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Instrument manual available	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments :

SOP NEEDED
#

General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?		Rating
Sample Collection/Handling				
• Sample Labeling	• Samples container labeled (description, date, time, preservative added, initialed). ¹⁹	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Chain of Custody	• Chain of custody (description, date, time, signature). ²⁰	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No *	
• Other	• Composite samples refrigerated during sample collection ¹⁴	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Equipment blanks utilized ¹⁴ **	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
	• SOP for cleaning of sampling equipment	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
	• Logbook being maintained	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

Comments:

* IF SAMPLER AND LAB ANALYST ARE NOT THE SAME PERSON, THEN A CHAIN OF CUSTODY MUST BE COMPLETED.

** BEGIN TAKING EQUIPMENT BLANKS 1 OF EVERY 20 SAMPLES, (BOTTLES FOR AUTOMATIC SAMPLERS, EFFLUENT GRAB SAMPLING EQUIPMENT, ETC.)

SOP NEEDED

Criteria	Standard Methods Requirement	Acceptable?		Rating
Desiccator				
• General criteria	• Properly working seals.	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Desiccant fresh (blue color)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Documentation	• Log book being maintained ²	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

Comments:

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Criteria	Standard Methods Requirement	Acceptable?		Rating
Bench sheets				
• General criteria	• Date(s) ²	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Analyst initials ²	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Blue or black ink pen ²	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Calibration information ²	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Equations, calculations, units for all measurements, notations, and results present ² &	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Corrections, single line through, initialed and dated ² N/A	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments:

General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?		Rating
Hot Water Bath (Fecal Coliform/E. Coli)				
• Temperature Recordkeeping	• Temperature Log (thermometer accurate to 0.2° C) ²³	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Incubator temperature 44.5° C ± 0.2° ^{21/24}			
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer ^{1,2}	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book being maintained ²	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Water Level	• Thermometer total immersion or partial (line on thermometer to ID immersion depth) ^{1,5}	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments:

SECTION NOT APPLICABLE

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

Comments:

SECTION NOT APPLICABLE

General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?		Rating
Final Effluent Temperature Monitoring				
• General Criteria	• Thermometer calibrated annually with NIST traceable thermometer ^{3,4}	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
	• Thermometer scaled to 0.1° Celsius and accurate to 0.5° C ⁵	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book being maintained ²	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Comments:				
Number of Criteria Rated:				Acceptable
				Marginal
				Unacceptable
				Total Number of Areas Rated
<p>Acceptable Ratings – No action required (recommend SOP's written or updated, perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, written response not required).</p>				
<p>Marginal Ratings – Improvements required, written response required (recommend SOP's be written or updated, recommend they perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, require deficiencies to be addressed in written response).</p>				
<p>Unsatisfactory Rating - Improvements required, written response required, NOV issued (recommend SOP's be written or updated, recommend they perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, require deficiencies to be addressed in written response to NOV).</p>				
Consider recommending PAI Audit from DES when:		<p>>60% of ratings are Marginal >45% of ratings are a combination of Marginal or Unacceptable >30% of ratings are Unacceptable</p>		

Notation of Referenced Method

- | | |
|--|--|
| 1 Method 9020-B, Item 3
2 Method 1020-A, Item 1
3 Method 1020-B, Item 10
4 Method 2540-B, Item 2
5 Method 2550-B, Item 1
6 Method 1020-A, Item 1
7 Method 4500-H B, Item 4
8 Method 4500-H B, Item 2
9 Method 1020-B, Item 2
10 Method 4500-O B, Item 3
11 Method 4500-O G, Item 3
12 Method 5210-B, Item 5
13 CFR 136.3, Table II | 14 Method 1060A, Item 1
15 Method 4500-CI I, Item 2
16 Method 4500-CI I, Item 4
17 Method 4500-NH3 D, Item 4
18 Method 4500-NH3 D, Item 2
19 Method 1060-B, Item 2
20 Method 1060-B, Item 1
21 Method 9222D, Item 1
22 Method 9223 B, Item 2
23 Method 9223 B, Item 3
24 Method 1603, Item 2
25 Method 9030-B, Item 3
26 Method 9020 B, Table IV |
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General Lab Criteria

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

Preservation and Holding Time						
Parameter	Container	Final Sample Volume (ml)	Sample Type	Preservation	Maximum Storage Time	
					Recommended	Regulatory
CBOD / CBOD	P, G	1000	G, C	Refrigerate $\leq 6^{\circ}\text{C}$	6h	6h
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
NH ₃ -N	P, G	500	G, C	Analyze as soon as possible or add H ₂ SO 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	200	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 ₂ SO ₄ to pH <2, Refrigerate $\leq 6^{\circ}\text{C}$	28 d	28 d

Approved Standard Methods	
CBOD / BOD 5 Day	Std Methods 5210-B
Ammonia, Selective Electrode Method	Std Methods 4500-NH ₃ 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