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PS Form 3800, August 2006 (Reverse) PSN 7530-02-000-9047

on warne file: Proble
Camden
sewerage



**Environmental
Protection Agency**

Ted Strickland, Governor
Lee Fisher, Lt. Governor
Chris Korleski, Director

April 14, 2010

Certified Mail

Mayor and Council, Camden
P.O. Box 1
Camden, Ohio 45311

**RE: Compliance Evaluation Inspection (CEI)/Notice of Violation
Camden WWTP
Permit Number 1PB00009**

Mayor and Council:

On April 7, 2010, I conducted a Compliance Evaluation Inspection at the Camden Wastewater Treatment Plant (WWTP). A copy of the inspection report is enclosed. The inspection report contains three marginal ratings, and one unsatisfactory rating.

The compliance inspection included a more in depth examination of the laboratory than has been done previously. The intent is to assist Camden in being able to document that the data produced by the laboratory is "true and accurate" and is therefore defensible. Please note that the NPDES permit in part III states that the permittee shall "Periodically calibrate and perform maintenance on all monitoring and instrumentation at intervals to ensure accuracy of measurements". Furthermore the certification statement required with the submittal of discharge monitoring reports asks the signer to certify "I believe the submitted information true, accurate and complete."

In addition, I discussed with Mr. Holtgrewe the upcoming requirement for a 24 hour flow proportionate sampler for station 1PB00009001. Camden will need to have the 24 hour flow proportionate sampler when the new permit becomes effective after July 31, 2010.

Please respond by May 15, 2010 with a description of how Camden intends to correct the deficiencies of the WWTP laboratory identified in the attached General Laboratory Criteria report. In addition, the report should include a description of how Camden will address the marginal and unsatisfactory ratings for Records/Report, Operation & Maintenance, Flow Measurement, and Collection System.

Mayor and Council, Camden
April 14, 2010
Page 2

If you have any questions or comments concerning the contents of this letter, please feel free to contact me at (937) 285-6103.

Sincerely,



Maureen M. Ware
Division of Surface Water

cc: Joseph Holtgrewe
ec: Preble County Health Dept.

MMWbp



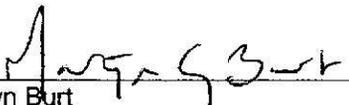
State of Ohio Environmental Protection Agency
Southwest District Office

NPDES Compliance Inspection Report

Section A: National Data System Coding					
Permit #	NPDES#	Month/Day/Year	Inspection Type	Inspector	Facility Type
1PB00009	OH0024317	4/7/2010	C	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	Entry Time	Permit Effective Date
Camden WWTP 300 South Main St. Camden, Ohio 45311	1:00 PM	8/1/2005
	Exit Time	Permit Expiration Date
	3:30 PM	07/31/2010
Name(s) and Title(s) of On-Site Representatives	Phone Number(s)	
Joseph Holtgrewe	937-533-6102	
Name, Address and Title of Responsible Official	Phone Number	
Mayor and Council, Village of Camden P.O. Box 1 Camden, Ohio 45311		

Section C: Areas Evaluated During Inspection					
(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)					
S	Permit	M	Flow Measurement	N	Pretreatment
M	Records/Reports	**	Laboratory	N	Compliance Schedule
M	Operations & Maintenance	S	Effluent/Receiving Waters	S	Self-Monitoring Program
S	Facility Site Review	S	Sludge Storage/Disposal	N	Other
U	Collection System				

Section D: Summary of Findings (Attach additional sheets if necessary)	
<p>Records/Reports was rated marginal due to time in/out in the log book reflecting the whole work day for the WWTP operator, and not the actual time he spent at the WWTP. Operations & Maintenance was rated marginal due to the south orbitals being non operational and sludge covered algae in the clarifier troughs. The collection system was rated unsatisfactory due to Camden not having an inflow/infiltration removal program, even though flows have been as high as 1.0736 MGD during this permit cycle. Flow Measurement was rated marginal due to the flow meter not having been calibrated annually. ** The Laboratory was evaluated using the General Lab Criteria. Numerous laboratory deficiencies were noted that will need to be addressed. Please see the attached General Lab Criteria for specific comments and/or deficiencies.</p>	
Inspector	Reviewer
 Maureen M. Ware Division of Surface Water Southwest District Office Date: 4/14/10	 Martyn Burt Environmental Supervisor Division of Surface Water Southwest District Office Date: 4/15/10

Sections E thru 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..... N/A

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..... N/A
- (d) Permittee has a compliance schedule..... N
- (e) Compliance schedule contained in..... N/A
- (f) Permittee is in compliance with schedule..... N/A
- (g) Has biomonitoring shown toxicity in discharge since last inspection N/A

Comments/Status:

Compliance reviewed from 04/01/2008-02/28/2010. Two violations: 9/22/2008 Fecal Coliforms 3511 (limit 2000) and 10/8/2008 Fecal Coliforms 2003 (limit 2000). Mr. Holtgrewe started as the ORC for Camden 12/08, and as such was not responsible for the lack of notification for the noted violations. Electronic notification was discussed with Mr. Holtgrewe. Violations of a daily maximum permit limit should be reported on the form found at the following site:
http://www.epa.state.oh.us/portals/35/permits/24-hour_reporting_Form4499_limits.doc
 Violations of weekly and monthly permit limits should be reported on the form found at the following site:
http://www.epa.state.oh.us/portals/35/permits/24-hour_reporting_Form4498_bypasses.doc
 A fact sheet regarding the 24-hour violation notice can be found at the following site:
http://www.epa.state.oh.us/portals/35/permits/24-hour_Report_FactSheet.pdf

Section G: Operation & Maintenance

Treatment Works:

Treatment facility properly operated and maintained..... N

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

i. What does the back-up power source operate.....

The generator is supposed to operate the whole WWTP.

ii. How often is the generator tested under load..... Y

three times per year

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

There is a dialer for WWTP power failure.

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

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

(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:

Mr. Holtgrewe is required by his supervisor to do other job responsibilities other than operating the WWTP. He has been told by his supervisor that he only needs to be at the WWTP for about an hour and a half per day and that the WWTP pretty much "runs itself". I pointed out that he will be required by law to be at the WWTP for no less than 20 hours per week when the permit is renewed after 7/31/2010. Mr. Holtgrewe has implemented changes that are helping the operation of the WWTP. He indicated that when he started working for Camden, the digesters were completely full. He had the sludge filter pressed and landfilled.

UV bulbs that were being used were long overdue for being changed. Mr. Holtgrewe had the UV bulbs changed.

Mr. Holtgrewe noted that he asked to have the barscreen enclosed such that it would not freeze (and thus become inoperable) in the winter.

The south orbitals were not operational, and had not been for a month. The part needed to fix the orbitals must be custom made and is not expected to be ready until 4/28/10.

Section G: Operation & Maintenance con't

Record Keeping/Operator of Record:

- (a) Wastewater Treatment Works classification (OAC 3745-7)..... Y
- (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.... N
- (f) If a Staffing Reduction plan has been approved, are the stipulations of the plan being met..... N/A
- (g) Operator of Record log book provided..... Y
- (h) Format of log book (e.g. computer log, hard bound book)

Hardbound
- (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..... N
 - 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..... N/A

Comments/Status:

Mr. Holtgrewe would log in the log book his starting and stopping time for his work day. Since he is required by his supervisor to do other work for Camden away from the WWTP, it could not be determined how many hours per week were being spent at the WWTP. I advised Mr. Holtgrewe that he should log in each time he enters and leaves the WWTP during the day such that the total time spent at the WWTP can be determined. I further advised Mr. Holtgrewe that he will have to spend the required 20 hours per week at the WWTP when the permit is renewed after 7/31/2010, or he would be violating the law, and as a result could lose his license.

Section G: Operation & Maintenance con't

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..... 1

- (b) Any chronic collection system overflows since last inspection..... N
- (c) Regulatory agency notified of all overflows..... N/A
- (d) CSOs in the collection system....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..... N
- (g) RDII Program established and active..... N
- (h) Any WIB complaint received since last inspection..... N/E
- (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:
Mr. Holtgrewe did not know if there had been any WIB complaints since the last inspection.

The alarm for the pump station is visual only.

Camden has an inflow/infiltration problem. For the 5 years of the current permit, flows as high as 1.0736 MGD, 0.8131 MGD, 0.08054 MGD, 0.801 MGD, 0.7209 MGD were recorded. Typical non-rain event flows at the WWTP are on the order of 0.100 MGD. The ADDF is 0.35 MGD. Mr. Holtgrewe indicated that Camden does not have an I/I reduction program.

As it is possible that the current composite sampling method could miss WWTP upsets caused by high flow events, Camden should initiate an I/I reduction program as the new permit will require 24 hour flow proportionate sampling.

Section H: Sludge Management

- (a) Method of Sludge Disposal...
 - Land Application
 - Haul to Another NPDES Permittee
 - Haul to a Mixed Solid Waste Landfill
- (b) Has amount of sludge generated changed significantly since the last inspection..... Y
- (c) How much sludge storage is provided at the plant.....

60 days
- (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/A
- (g) Are sludge application sites inspected to verify compliance with NPDES permit..... N/A

Comments/Status:
Mr. Holtgrewe noted that the sludge digesters were completely full when he started working for Camden. He had the sludge filter pressed and landfilled.

Section I: Self-Monitoring Program

Flow Measurement:

- (a) Primary/Secondary flow measuring devices (e.g. weir with

ultrasonic level sensor):

ultrasonic

- (b) Flow meter calibrated annually N
(Date of last calibration:6/2008)
- (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:

I advised Mr. Holtgrewe that the flow meter must be calibrated annually.

Section I: Self-Monitoring Program (con't)

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..... 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:

Mr. Holtgrewe noted that he could not vouch for any records prior to his beginning to work for Camden.

Section I: Self-Monitoring Program (con't)

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/A
- Title
 - Scope and Application
 - Summary
 - Sample Handling and 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 known 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).. N
- (d) If alternate analytical procedures are used, proper approval has been obtained..... N
- (e) Analyses being performed more frequently than required by permit. Y
- (f) If (e) is yes, are results in permittee's self-monitoring report..... N
- (g) Satisfactory calibration and maintenance of instruments/equipment. N
(see score from GLC page)
- (h) Commercial laboratory used..... Y
Parameters analyzed by commercial lab: O&G, NO2-NO3, Phosphorus, metals, Cyanide, Chromium.

Lab name: Belmont

Discharge Monitoring Report Quality Assurance (DMRQA)

- (a) Participation in latest USEPA quality assurance performance sampling..... N/A
Date: 4/09
- (b) Were any parameters "Unsatisfactory"..... N/A
- (c) Reasons for "Unsatisfactory" parameters.....N/E

Mr. Holtgrewe samples monthly for NH3 upstream and downstream of the WWTP. He indicated that he was doing this mainly to document that the WWTP was not causing nutrient enrichment in the stream. He noted that there was a farm with livestock upstream that he felt could be causing nutrient enrichment in the stream. Camden has an outdated 17th edition of Standard Methods. A new Standard Methods should be obtained.

Section J: Effluent/Receiving Water Observations

Outfall # 001

Outfall Description: Pipe

Receiving Stream: Seven Mile Creek

Receiving Stream Description: Clear water

Comments/Status:

While the effluent appeared clear, there was plenty of sludge covered algae in the clarifier troughs, which would be indicative of sludge having been discharged at some time in the past. I advised Mr. Holtgrewe to take the clarifier off-line when he does clean out the trough so that the sludge and algae do not get washed out to the stream. Mr. Holtgrewe noted that he found the telescoping sludge line set at a level that would allow sludge to wash out. He said he knew he never would have set it at that level, and that someone must have done that on purpose. The front gate of the WWTP is left open even when the WWTP is not staffed. I advised Mr. Holtgrewe to ensure that the front gate is locked when the WWTP is not staffed.

Section K: Multimedia Observations

- (a) Are there indications of sloppy housekeeping or poor maintenance in work and 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:

Permit # : 1PB00009
NPDES # : OH0024317



Permit # : 1PB00009
NPDES # : OH0024317



Draft General Lab Criteria

Criteria	Std Methods Required	Status	Rating
Balance <ul style="list-style-type: none"> • Standard Weights • Calibration Frequency / Documentation • Cleanliness, air movement, vibration 	<ul style="list-style-type: none"> • Either NIST Class s or ASTM/ANSI Class 1 weights ^{1,2} • 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 • Cleanliness of balance is a must and air movement and vibration needs to be kept to a minimum¹ • Service and recalibrate annually (manufacturer representative or comparable)¹ • Must be able to measure to 0.1 grams⁴ • Instrument manual available • Log book maintained⁶ 	<p>Camden does not have either NIST Class s or ASTM/ANSI Class 1 weights. Calibration verification is not done.</p> <p>The balance was a bit dusty.</p> <p>No annual service and/or calibration had been done.</p> <p>The balance measures to 0.0001 g</p> <p>No instrument manual was available. There was no log book.</p>	<p>U</p> <p>U</p> <p>M</p> <p>U</p> <p>A</p> <p>U</p> <p>U</p>
<p>Comments:</p>			
Drying Oven <ul style="list-style-type: none"> • Temperature Recordkeeping • Calibration Frequency / Documentation 	<ul style="list-style-type: none"> • Thermometer calibrated annually with NIST traceable thermometer^{1,2} • Correction factor posted on thermometer / equipment¹ • Temperature recorded with each use⁴ • Thermometer temperature in 0.1° C increments⁵ • Acceptable temperature range is 103° – 105° F⁴ • Instrument manual available • Log book maintained⁶ 	<p>The thermometer in use was an NIST traceable thermometer. N/A</p> <p>Not at this time.</p> <p>Not at this time.</p> <p>103 degrees before opening oven.</p> <p>Not at this time. Not at this time.</p>	<p>A</p> <p>U</p> <p>U</p> <p>A</p> <p>U</p> <p>U</p>

Draft General Lab Criteria

Comments:			
<p>pH Meter</p> <ul style="list-style-type: none"> • Buffers Used for Calibration • Minimum of 2 point calibration • Buffer Expiration Date • Calibration Frequency / Documentation • Slope Documentation / Acceptability 	<ul style="list-style-type: none"> • Calibration per manufacturer specification and calibration buffers must bracket anticipated result⁷ • 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 • Teflon covered magnetic stirrer for sample mixing or equivalent⁸ • Buffers must not be expired • Slope acceptable range indicated on benchsheet² • Instrument manual available • Logbook maintained⁹ 	Yes, buffers of 4, 7, & 10.(currently not using 4, but will do so from now on.)	M
		Not at this time	U
		Yes.	A
		Yes. Meter automatically shows when slope is out of range by requiring a calibration.	A A
		Yes. Yes.	A A
Comments:			
<p>DO Meter</p> <ul style="list-style-type: none"> • Calibration Frequency / Documentation • Calibration Method 	<ul style="list-style-type: none"> • Calibration per manufacturer specification¹⁰ • Air or known DO calibration method¹⁰ • Small to no bubble present under membrane (must be smaller than the lead in number 2 pencil)¹¹ • Logbook maintained⁹ • Instrument manual available • 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 	Automatically calibrates when instrument is turned on.	A
		Air.	A
		No air bubble.	A
		Yes.	A
		Yes. No.	A U

Draft General Lab Criteria

Comments:			
Incubator <ul style="list-style-type: none"> • Temperature Recordkeeping • Temperature Calibration / Documentation 	<ul style="list-style-type: none"> • Check / record temperature twice daily for each shelf in use¹ • Thermometer calibrated annually with NIST traceable thermometer^{1,2} • Temperature correction information posted on incubator¹ • Acceptable temperature range is 20° C +/-1.0°¹² • Instrument manual available • Logbook maintained⁹ • Temperature Log (thermometer reads to 0.1 Celsius).⁵ 	Not at this time. Not at this time. Not at this time. Yes. Yes. Not at this time. Not at this time.	U U U A A U U
Comments:			
Refrigerator <ul style="list-style-type: none"> • Temperature Recordkeeping • Temperature Calibration / Documentation 	<ul style="list-style-type: none"> • Temperature Log (thermometer reads to 0.1 Celsius).⁵ • Thermometer calibrated annually with NIST traceable thermometer^{1,2} • Thermometer held in water bath.¹ • Refrigerator temperature 4° Celsius (+/-2°).¹³ • Do not store volatile solvents, food, or beverages.¹⁴ 	Not at this time. Not at this time. Not at this time. Unknown. No food/drink stored in refrigerator.	U U U U A
Comments:			

Draft General Lab Criteria

<p>Chlorine Meter</p> <ul style="list-style-type: none"> • Calibration Frequency / Documentation • Calibration Method • Standard expiration date • Standards used for calibration • Slope Documentation / Acceptability 	<ul style="list-style-type: none"> • pH / millivolt meter read to 0.1 mV¹⁵ • Electrode free of deposits and foreign material • Calibration using three iodate solutions 0.2, 1.0, 5.0 or Calibration per manufacturer specification¹⁶ • 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 • Calibration curve (acceptable slope) • Log book being maintained.⁹ • Instrument manual available • Standards Expiration Date 	<p style="text-align: center;">N/A – Camden uses UV</p>	
<p>Comments:</p>			
<p>Ammonia Meter</p> <ul style="list-style-type: none"> • Calibration Frequency / Documentation • Calibration Method • Standard expiration date • Standards used for calibration • Slope acceptability 	<ul style="list-style-type: none"> • Electrode free of deposits and foreign material • 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 • Teflon covered magnetic stirrer for sample mixing or equivalent¹⁸ • Standards used for calibration (3 ammonia solution 10 mg/l, 1 mg/l, and 0.1 mg/l) or calibration per manufacturer specification¹⁷ • Verify calibration slope is acceptable (per manufacturer Spec.). • Log book being maintained⁹ • Instrument manual available 	<p>No deposits etc. noted.</p> <p>Not at this time.</p> <p>Yes.</p> <p>0.2, 2.0, & 20.0 being used.</p> <p>Auto calibrates if slope is not correct.</p> <p>Yes, loose leaf.</p> <p>Yes.</p>	<p style="text-align: center;">A</p> <p style="text-align: center;">U</p> <p style="text-align: center;">A</p> <p style="text-align: center;">*</p> <p style="text-align: center;">A</p> <p style="text-align: center;">A</p> <p style="text-align: center;">A</p>

Draft General Lab Criteria

Comments: *It is not clear if 0.2, 2.0, & 20 should be used instead of 0.1, 1.0, & 10.0 for the pH. No rating was assigned at this time for that issue.			
Sample Handling / Collection <ul style="list-style-type: none"> • Sample Labeling • Chain of Custody 	<ul style="list-style-type: none"> • Samples container labeled (description, date, time, preservative added, initialed).¹⁹ • Chain of custody (description, date, time, signature).¹⁹ • Composite samples refrigerated during sample collection¹⁴ • Equipment blanks utilized¹⁴ • SOP for cleaning of sampling equipment • Logbook being maintained⁹ 	Everything except initials was present on bottles provided by Belmont. Yes. Yes. Not at this time. Not at this time. Yes, looseleaf.	M A A U U A
Comments:			
Desiccator	<ul style="list-style-type: none"> • Properly working seals. • Desiccant fresh (blue color) • Log book being maintained⁹ 	Yes. Not at this time. Not at this time.	A U U
Comments:			

Draft General Lab Criteria

Benchsheets	<ul style="list-style-type: none"> • Date(s)² • Analyst initials² • Equations, calculations, units for all measurements, notations, and results present² • Calibration information² • Blue or black ink pen² • Corrections, single line through, initialed and dated² 	Yes. Yes. Yes. Not at this time. Yes. Not at this time.	
Comments:			
Hot Water Bath <ul style="list-style-type: none"> • Temperature Recordkeeping • Temperature Calibration / Documentation • Water Level 	<ul style="list-style-type: none"> • Temperature Log (thermometer reads 0.2° C)²¹ • Thermometer calibrated annually with NIST traceable thermometer^{1,2} • Thermometer total immersion or partial (line on thermometer to ID immersion depth)^{4,5} • Incubator temperature 44.5° C +/- 0.2²¹ • Log book being maintained⁹ 	N/A	
Comments:			
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° C¹ • Date, contents, sterilization time and temperature, total time in 	N/A	

Draft General Lab Criteria

	autoclave, and analyst's initials should be recorded each time the autoclave is used ¹ <ul style="list-style-type: none"> • Test monthly for sterilization efficacy using a biological such as commercially available <i>Geobacillus stearothermophilus</i> in spore strips, suspensions, or capsules ¹ • Verify the autoclave temperature weekly by using a maximum registering thermometer (MRT) to confirm that 121°C has been reached. ¹ • Thermometer calibrated annually with NIST traceable thermometer ^{1,2} • Log book being maintained ⁹ 		
Comments:			
		Acceptable	25
		Marginal	3
		Unacceptable	25

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).

PAI Audit Recommendation Criteria:

Draft General Lab Criteria

>60% Marginal Rating = Recommend PAI Audit from DES

>45% Combination of Marginal and Unacceptable Rating = Recommend PAI Audit from DES

>30% Unacceptable = Recommend PAI Audit from DES

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 Degrees 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
- 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

Preservation and Holding Times

Parameter	Container	Min. Sample Size (mL)	Sample Type	Preservation	Maximum Storage	
					Recommended	Regulatory
BOD / CBOD	P, G	1000	G, C	Refrigerate 4° C +/-2°	6h	48h
TSS	P, G	200	G, C	Refrigerate 4° C +/-2°	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 ₂ SO ₄ to pH <2, Refrigerate 4° C +/-2°	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,	P, G	1000	G, C	For dissolved filter immediately and	6 months	6 months

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general				add HNO ₃ to pH <2		
Purgeables by purge and trap	G (PTFE lined lid)	40 (X2)	G	HCl to pH<2, Refrigerate 4° C +/-2°	7 d	14 d
Base/Neutrals and acids	G (solvent rinsed or baked)	1000	C, G	Refrigerate 4° C +/-2°	7 d	7 d until extraction 40 day after extraction
Pesticides	G (PTFE lined lid)	1000	C	Refrigerate 4° C +/-2°	7 d	7 d until extraction 40 day after extraction
Fecal Coliform	G, P (Sterilized)	100	G	Refrigerate 4° C +/-2°, If chlorine present add sodium thiosulfate tablet,	start analysis within 2 hrs of sample collection.	
Oil and Grease	G	1000	G	HCl or H ₂ SO ₄ to pH <2, Refrigerate 4° C +/-2°	28 d	28 d

Notation of Referenced Method

1. Method 9020-B, Item 4	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-B, 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. Method 1060B, Table 1060I	14. Method 1060A, Item 2
15. Method 4500-CI I, Item 2	16. Method 4500-CI I, Item 24
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.

Draft 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.