



**Environmental
Protection Agency**

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



1PS0001320100524

BROWN

WAYNOKA REGIONAL WATER

ZIMMERMAN, MICH 2010/05/24

**Environment
Protection Agency**

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Lee Fisher, Lt. Governor
Chris Korleski, Director

May 24, 2010

Mr. George Culver, Superintendent
Waynoka Regional Water & Sewer District
1 Waynoka Drive
Sardinia, Ohio 45171

**Re: Waynoka WWTP
NPDES Permit No. 1PS00013*DD; OH0115771
NPDES Compliance Inspection and Notice of Violation**

Dear Mr. Snell:

On April 22, 2010, Michelle Waller and I conducted an NPDES (National Pollutant Discharge Elimination System) permit compliance inspection at the above referenced facility. You represented the water and sewer district during the inspection. The purpose of the inspection was to evaluate the operation of the wastewater treatment system and to determine compliance with the NPDES permit.

A copy of the inspection report is enclosed. All areas evaluated during the inspection received a satisfactory rating except for the "Operations and Maintenance" and "Flow Measurement" categories (refer to Section D of the attached report). Operations and Maintenance was rated marginal because you exceeded the allowable discharge flow volume from the holding lagoon. This is a violation of your NPDES permit, specifically Part II, Item K. Discharge from the lagoon is limited to the time between November 15th and March 15th of each year, with a maximum total discharge from the lagoon for this time period not to exceed 37,412,500 gallons. Monitoring reports indicate you discharged 50,684,000 gallons during the time period November 15, 2009 to March 15, 2010. Flow Measurement was rated 'marginal' because the final effluent flow meter had not been calibrated within the last year (you did not know the date of the last calibration). We recommend flow meters be calibrated at least annually.

Review of the monthly electronic Discharge Monitoring Reports submitted by the sewer district from November 1, 2008, through March 31, 2010 revealed two final effluent limit violations as shown below:

Reporting Period	Parameter	Limit Type	Limit	Reported Value	Violation Date
February 2010	Total Suspended Solids	30D Conc	12	12.1666	2/1/2010
February 2010	CBOD 5 day	30D Conc	10	10.1766	2/1/2010



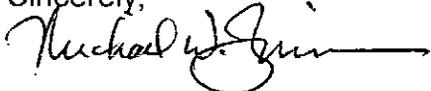
Although these violations are not significant, the reported values still exceed the 30-day average limits for TSS and CBOD₅. Please provide an explanation for the cause of these exceedances and the steps being taken to reduce, eliminate, and/or prevent recurrence of the exceedances.

A brief review of the wastewater laboratory procedures was conducted as part of the plant inspection. A few observations and comments are included in the report. The next compliance inspection to be conducted at this facility will most likely include a more in depth examination of the laboratory than has been done previously. The intent is to assist the sewer district in being able to document that the data produced by the laboratory is "true and accurate" and is therefore defensible. The emphasis will be on the SOPs and Quality Assurance measures required by 40 CFR 136. A copy of the draft checklist we propose to use is included for your information.

Finally, I have enclosed a copy of the Operator of Record Notification Form (refer to the requirements contained in Ohio Administrative Code 3745-7-02). Please complete and submit this form to the address shown on the form.

If you have any questions, don't hesitate to contact me at (937) 285-6102.

Sincerely,



Michael W. Zimmerman
Permits Group
Division of Surface Water





Ohio Environmental Protection Agency
 Division of Drinking and Ground Waters
 Operator Certification Unit

Operator of Record (ORC) Notification Form

Ohio Environmental Protection Agency
 Division of Drinking and Ground Waters
 Operator Certification Unit
 50 West Town St, Suite 700
 P.O. Box 1049
 Columbus, OH 43216-1049

Phone: (614) 644-2752
 1- 866 - 411-OPCT (6728)
 Fax: (614) 644-2909
 email: opcert@epa.state.oh.us
 website: www.epa.state.oh.us/ddagw/opcert.html

I. SYSTEM INFORMATION

Name of System: _____ Phone Number: _____

PWS ID/NPDES Permit #: _____ STU # _____ Classification: _____

 Name of Facility Owner or Permittee, Title (Print) Facility Owner or Permittee (Signature)

II. SYSTEM TYPE (Check only one of the following. Use additional sheets if necessary.)

Public Water System (PWS)	Distribution System	Treatment Works	Collection System

III. OPERATOR OF RECORD INFORMATION

Add Additional(A), New (N) or Remove(R)	Name of Operator of Record	Certification Number & Expiration Date	I verify that I am the onsite certified operator responsible for the technical operation of the above referenced facility. (Signature of certified operator)*

* A signature by an operator of record who is being removed is not required.
 (Attach additional sheets if necessary.)

Amount of time an ORC spends onsite at the Facility: _____

For Internal Use Only	
Reviewed by: _____	Date of SDWIS update: _____
Date of Compliance Status Letter: _____	





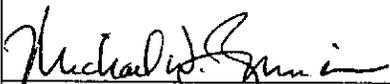
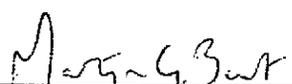
State of Ohio Environmental Protection Agency
Southwest District Office

NPDES Compliance Inspection Report

Section A: National Data System Coding					
Permit #	NPDES#	Month/Day/Year	Inspection Type	Inspector	Facility Type
1PS00013*DD	OH0115771	4/22/2010	C	S	2

Section B: Facility Data		
Name and Location of Facility Inspected	Entry Time	Permit Effective Date
Waynoka Regional Water & Sewer District WWTP Lot 2697 Wanna Drive Sardinia, Ohio 45171	10:15 am	12/1/2006
	Exit Time	Permit Expiration Date
	11:40 am	11/30/2011
Name(s) and Title(s) of On-Site Representatives	Phone Number(s)	
George Culver, Superintendent	(548) 446-3256 (937)	
Name, Address and Title of Responsible Official	Phone Number	
George Culver 1 Waynoka Drive Sardinia, Ohio	same	

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

Section D: Summary of Findings (Attach additional sheets if necessary)	
Inspector	Reviewer
 Michael W. Zimmerman Division of Surface Water Southwest District Office	 Martyn Burt Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office
5-21-2010 Date	5/24/2010 Date

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..... Y

Comments/Status:

Section F: Compliance

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

Comments/Status:

(a) The permittee violated Part II, Item K. of its permit by exceeding the maximum total discharge from the holding lagoon for the time period of November 15, 2009 to March 15, 2010. The maximum allowable volume is 37,412,500 gallons. The actual volume discharged was 50,684,000 gallons.

Section G: Operation & 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.....

A new generator was installed two years ago. It is able to power both the water and wastewater treatment plants.

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

Tested weekly

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

Sludge return, sludge pit, effluent pumping, etc.

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

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

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

(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:

Significant brown foam was observed in the center wells of the clarifiers (operators spray it down). In one of the clarifiers, the operators have placed rubber pieces in some of the V-notches of the weir in an attempt to maintain an even overflow (weir is not level).

Slight amount of suspended solids / floc was observed in the clarifier effluent.

They are evaluating the option of land application of the final effluent.

Section G: Operation & Maintenance con't

Record Keeping/Operator of Record:

- (a) Wastewater Treatment Works classification (OAC 3745-7) Class I 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.. N
- (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/A
- (g) Operator of Record log book provided..... Y
- (h) Format of log book (e.g. computer log, hard bound book)

Hard bound book and time cards
- (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:

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..... NA
 - ii. How many pump stations have telemetered alarms..... NA
 - iii. How many pump stations have operable alarms..... NA

- (b) Any chronic collection system overflows since last inspection..... N/A
- (c) Regulatory agency notified of all overflows..... N/A
- (d) CSOs in the collection system....if so, what is the LCTP status..... N
- (e) How are CSOs monitored (chalk, block, level sensor, etc.)..... N/A
- (f) Portable pumps available for collection system maintenance..... N/A
- (g) RDII Program established and active..... N/A
- (h) Any WIB complaint received since last inspection..... N/A
- (i) Is there a WIB response plan..... N/A
- (j) Is any portion of the collection system at or near dry weather Capacity..... N

Comments/Status:

The collection system consists of low pressure sewers with individual grinder pumps. There are 712 grinder pumps in the system. The grinder pumps have alarms. So far in 2010, there have been 14 failures/malfunctions of grinder pumps.

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

120,000 gallon storage capacity
- (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..... Y
- (g) Are sludge application sites inspected to verify compliance with NPDES permit..... N/A

Comments/Status:

Sludge is processed (filter pressed) at the WWTP. Gullet Sanitation hauls the filter cake to the Rumpke Sunshine Road landfill for final disposal. They plan to waste and press sludge in June, 2010.

Section I: Self-Monitoring Program

Flow Measurement:

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

Currently, the reported flow rates are from an ultrasonic flow meter on the influent.
- (b) Flow meter calibrated annually N
 (Date of last calibration: *Unknown*)
- (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:

The actual final effluent discharge flow rate is not measured. Operators take daily flow level readings from a weir at the holding pond overflow, but this is not reported (not an accurate representation of the WWTP final effluent flow rate).

The influent ultrasonic flow rate at 10:40 am was 47 gpm (which equates to 67,680 gpd).

Flow meter should 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
(see GLC page)
- (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:

Parameters analyzed at the WWTP include CBOD5, TSS, and NH3-N. Parameters analyzed by the contract lab (MASI) are the metals, total phosphorus, and oil & grease.

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:
 - 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.

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- (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..... Y
- (g) Satisfactory calibration and maintenance of instruments/equipment. N/A (see score from GLC page)
- (h) Commercial laboratory used..... Y
 Parameters analyzed by commercial lab:
Metals, total phosphorus, oil & grease
 Lab name:
MASI, Inc.

Discharge Monitoring Report Quality Assurance (DMRQA)

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

Comments/Status:

Section J: Effluent/Receiving Water Observations

Outfall # 001

Outfall Description:

Receiving Stream: *drainage ditch to Straight Creek*

Receiving Stream Description:

Comments/Status:

No discharge.

Section K: Multimedia Observations

- (a) Are there indications of sloppy housekeeping or poor maintenance in work and storage areas or laboratories..... N
- (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:

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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 type="checkbox"/> No	
• Calibration Frequency / Documentation	• Calibration verification required at least once each day the balance is used. ³	<input type="checkbox"/> Yes	<input 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 type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Service and recalibrate annually (manufacturer representative or comparable) ¹	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Must be able to measure to 0.1 grams ⁴	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Instrument manual available	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book maintained ²	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments:

Criteria	Standard Methods Requirement	Acceptable?		Rating
Drying Oven (Suspended Solids)				
• Temperature Recordkeeping	• Temperature recorded with each use ⁴	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book maintained ²	<input type="checkbox"/> Yes	<input 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 type="checkbox"/> No	
• Other	• Thermometer temperature in 0.1° C increments ⁵	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Acceptable temperature range is 103° – 105° F ⁴	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Instrument manual available	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments:

General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?		Rating
pH Meter				
<ul style="list-style-type: none"> • Calibration Frequency / Documentation 	<ul style="list-style-type: none"> • Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples)³ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Logbook maintained² 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> • Minimum of 2 point calibration 	<ul style="list-style-type: none"> • Calibration per manufacturer specification and calibration buffers must bracket anticipated result⁷ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> • Slope Documentation / Acceptability 	<ul style="list-style-type: none"> • Slope acceptable range indicated on benchsheet² 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> • Buffer Expiration Date 	<ul style="list-style-type: none"> • Buffers must not be expired 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> • Other 	<ul style="list-style-type: none"> • Instrument manual available 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Teflon covered magnetic stirrer or equivalent for mixing⁸ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments:

Criteria	Standard Methods Requirement	Acceptable?		Rating
Dissolved Oxygen Meter				
<ul style="list-style-type: none"> • Calibration Method 	<ul style="list-style-type: none"> • Air or known DO calibration method¹⁰ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Calibration per manufacturer specification¹⁰ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> • Calibration Frequency / Documentation 	<ul style="list-style-type: none"> • Logbook maintained² 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Calibration verification required at least once each day the meter is used.³ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> • Other 	<ul style="list-style-type: none"> • Small to no bubble present under membrane (must be smaller than the lead in number 2 pencil)¹¹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Instrument manual available 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments:

General Lab Criteria

Criteria	Standard Methods Requirement		Rating
Incubator (CBOD/ E-Coli)	Acceptable?		
<ul style="list-style-type: none"> • Temperature Recordkeeping 	<ul style="list-style-type: none"> • Temperature checked / recorded twice daily for each shelf in use¹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	<ul style="list-style-type: none"> • Acceptable temperature range (CBOD) is 20° C ±1.0^{o12} 	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	<ul style="list-style-type: none"> • Acceptable temperature range (E-Coli) is 35° C ±0.5^{o22} 	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	<ul style="list-style-type: none"> • Logbook maintained² 	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<ul style="list-style-type: none"> • Temperature Calibration / Documentation 	<ul style="list-style-type: none"> • Thermometer calibrated annually with NIST traceable thermometer^{1, 2} 	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	<ul style="list-style-type: none"> • Temperature correction information posted on incubator¹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<ul style="list-style-type: none"> • E-Coli can use multiple tubes (five 20 ml or ten 10 ml), or mfg's multi-well tray 	<ul style="list-style-type: none"> • E-coli Ultraviolet lamp (365 nm wave length, 6 W bulb)²³ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<ul style="list-style-type: none"> • Other 	<ul style="list-style-type: none"> • Instrument manual available 	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	<ul style="list-style-type: none"> • Temperature Log (thermometer reads to 0.5 Celsius).⁵ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Comments:			

Criteria	Standard Methods Requirement		Rating
Refrigerator	Acceptable?		
<ul style="list-style-type: none"> • Temperature Recordkeeping 	<ul style="list-style-type: none"> • Temperature Log (thermometer reads to 0.1 Celsius).⁵ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<ul style="list-style-type: none"> • Temperature Calibration / Documentation 	<ul style="list-style-type: none"> • Thermometer calibrated annually with NIST traceable thermometer^{1, 2} 	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<ul style="list-style-type: none"> • Other 	<ul style="list-style-type: none"> • Thermometer held in water bath.¹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	<ul style="list-style-type: none"> • Refrigerator temperature ≤6° Celsius.¹³ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	<ul style="list-style-type: none"> • Do not store volatile solvents, food, or beverages.¹⁴ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Comments:			

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:				
<hr/>				
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 type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book being maintained ²	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Slope acceptability	• Verify calibration slope is acceptable (per mfg. spec.).	<input 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 type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Standards used for calibration not expired	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Electrode free of deposits and foreign material	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Teflon covered magnetic stirrer or equivalent for mixing ¹⁸	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Instrument manual available	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:				

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 type="checkbox"/> Yes	<input type="checkbox"/> No	
• Chain of Custody	• Chain of custody (description, date, time, signature). ¹⁹	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Composite samples refrigerated during sample collection ¹⁴	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Equipment blanks utilized ¹⁴	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• SOP for cleaning of sampling equipment	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Logbook being maintained ²	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

Comments:

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

Comments:

Criteria	Standard Methods Requirement	Acceptable?		Rating
Bench sheets				
• General criteria	• Date(s) ²	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Analyst initials ²	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Blue or black ink pen ²	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Calibration information ²	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Equations, calculations, units for all measurements, notations, and results present ²	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Corrections, single line through, initialed and dated ²	<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 reads 0.2° C) ²¹	<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:

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:

General Lab Criteria

Criteria	Standard Methods Requirement	Rating
Final Effluent Temperature Monitoring		Acceptable?
• General Criteria	• Thermometer calibrated annually with NIST traceable thermometer ^{1,2}	<input type="checkbox"/> Yes <input type="checkbox"/> No
	• Thermometer reads in increments of at least 0.1° C ⁵	<input type="checkbox"/> Yes <input type="checkbox"/> No
	• Log book being maintained ²	<input type="checkbox"/> Yes <input type="checkbox"/> No
Comments:		
Number of Criteria Rated:		<input type="checkbox"/> Acceptable
		<input type="checkbox"/> Marginal
		<input type="checkbox"/> Unacceptable
		<input type="checkbox"/> 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 | 14 Method 1060A, Item 1 |
| 2 Method 1020-A, Item 1 | 15 Method 4500-CI I, Item 2 |
| 3 Method 1020-B, Item 10 | 16 Method 4500-CI I, Item 4 |
| 4 Method 2540-B, Item 2 | 17 Method 4500-NH3 D, Item 4 |
| 5 Method 2550-B, Item 1 | 18 Method 4500-NH3 D, Item 2 |
| 6 Method 1020-A, 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 |

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 Times						
Parameter	Container	Min. Sample Size (mL)	Sample Type	Preservation	Maximum Storage Time	
					Recommended	Regulatory
BOD / CBOD	P, G	1000	G, C	Refrigerate $\leq 6^{\circ}\text{C}$	6h	48h
TSS	P, G	200	G, C	Refrigerate $\leq 6^{\circ}\text{C}$	7 d	7 d
pH	P, G	50	G	Analyze immediately	0.25h	0.25 h
NH3-N	P, G	500	G, C	Analyze as soon as possible or add H_2SO_4 to pH <2, Refrigerate $\leq 6^{\circ}\text{C}$	7 d	28 d
TRC	P, G	500	G	Analyze immediately	0.25h	0.25 h
DO (electrode)	G, BOD Bottle	300	G	Analyze immediately	0.25h	0.25 h
Temperature	P, G	-	G	Analyze immediately	0.25h	0.25 h
Metals, general	P, G	1000	G, C	For dissolved filter immediately and add HNO_3 to pH <2	6 months	6 months
Purgeables by purge and trap	G (PTFE lined lid)	40 (X2)	G	HCl to pH <2, Refrigerate $\leq 6^{\circ}\text{C}$	7 d	14 d
Base/Neutrals and acids	G (solvent rinsed or baked)	1000	C, G	Refrigerate $\leq 6^{\circ}\text{C}$	7 d	7 days until extraction 40 days after extraction
Pesticides	G (PTFE lined lid)	1000	C	Refrigerate $\leq 6^{\circ}\text{C}$	7 d	7 days until extraction 40 days after extraction
Fecal Coliform / E-Coli	G, P (Sterilized)	100	G	Refrigerate $\leq 10^{\circ}\text{C}$ If chlorine present, add sodium thiosulfate tablet	6 hrs transport Start analysis within 2 hrs of receipt in lab.	
Oil and Grease	G	1000	G	HCl or H_2SO_4 to pH <2, Refrigerate $\leq 6^{\circ}\text{C}$	28 d	28 d

Approved Standard Methods

CBOD / BOD 5 Day	Std Methods 5210-B
Ammonia, Selective Electrode Method	Std Methods 4500-NH3 D
Total Residual Chlorine, DPD Colorimetric Method	Std Methods 4500-Cl G
Total Suspended Solids, Dried at 103-105 °C	Std Methods 2540-D
Dissolved Oxygen, Membrane Electrode Method	Std Method 4500-O G
pH, Electrometric Method	Std Methods 4500-H+ B
Fecal Coliform, Membrane Filter Procedure	Std Methods 9222D
Escherichia Coli, Enzyme Substrate Test	Std Method 9223B
Escherichia Coli Membrane Filtration Procedure	EPA Method 1603
Oil and Grease	USEPA 1664A or Std Methods 5520B
Metals, general	USEPA 200, Std Methods 3111B or C, or 3120B
Volatiles (Purgeables by purge and trap)	USEPA 6210, Std Methods 624
Semi-Volatiles (Base/Neutrals and acids)	USEPA 6410, Std Methods 625
Pesticides	USEPA 6410 and 6630, Std Methods 608