

**Environmental
Protection Agency**

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

January 20, 2011

Re: Scioto County
Sunoco, Inc. (R+M)
2011 CEI
Correspondence (IWW)

Mr. Jason E. Patrick
Regional Environmental Superintendent
P.O. Box 180
1019 Haverhill-Ohio Furnace Road
Haverhill, Ohio 45636-0180

Dear Mr. Patrick:

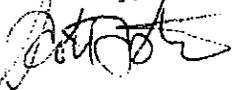
On November 10, 2010, I conducted a Compliance Evaluation Inspection at Sunoco Inc. (R+M) located in Haverhill, Ohio. Paul Daniels and you represented Sunoco, Inc. (R+M) and accompanied me during the inspection. The purpose of the inspection was to determine Sunoco's compliance with NPDES Permit Number OIF00009*MD and the Ohio Water Pollution Control Act, Revised Code Chapter 6111.

As a result of the inspection and review of our files, I found no apparent violations.

Sunoco, Inc. (R+M) should take the appropriate actions to maintain the facility in compliance with all terms and conditions of the NPDES permit.

The Ohio EPA strongly encourages pollution prevention as the preferred approach for waste management. The first priority of pollution prevention is to eliminate the generation of wastes and pollutants at the source (source reduction). For those wastes or pollutants that are generated, the second priority is to recycle or reuse them in an environmentally sound manner. You can benefit economically, help preserve the environment, and improve your public image by implementing pollution prevention programs. For more information about pollution prevention, including fact sheets and U.S. EPA's Facility Pollution Prevention Guide, (EPA/600/R-92/088), you may contact the Ohio EPA Pollution Prevention Section at (614) 644-3469 or me for additional information.

Sincerely,



Scott Foster
Environmental Specialist 2
Division of Surface Water

SF/dh

Enclosure

NPDES Compliance Inspection Report

A. NATIONAL DATA SYSTEM CODING

Permit No.	NPDES No.	Date	Inspection Type	Inspector	Facility Type
01F00009*MD	OH0007391	November 10, 2010	C	S	2

B. FACILITY DATA

Name & Location of Facility Inspected	Entry Time	Permit Effective Date
Sunoco, Inc. (R+M) P.O. Box 180 1019 Haverhill-Ohio Furnace Road Haverhill, Ohio 45636-0180	9:33 a.m.	June 1, 2009
	Exit Time	Permit Expiration Date
	11:47 a.m.	July 31, 2013

Name(s) & Title(s) of On-Site Representative(s)	Phone Number(s)
Paul E. Daniels, Environmental Engineer	(740) 533-5295
Name, Address, & Title of Responsible Official	Phone Number
Jason E. Patrick, Regional Superintendent, Environmental	(740) 533-5267

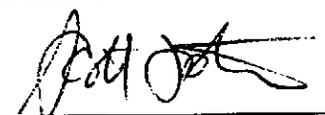
C. AREAS EVALUATED DURING INSPECTION

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

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

D. SUMMARY OF FINDINGS/COMMENTS (attach additional sheets if necessary)

See attached letter



Scott Foster, Inspector, Ohio EPA, Southeast District Office

11/19/11

Date



Timothy M. Campbell, Reviewer, Ohio EPA, Southeast District Office

11/19/11

Date

E. PERMIT VERIFICATION

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

Comments:

F. COMPLIANCE SCHEDULES/VIOLATIONS

	YES	NO	N/A	N/E
a. Any significant violations since the last inspection	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Permittee is taking actions to resolve violations	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Permittee has compliance schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Compliance schedule contained in: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Permittee is meeting compliance schedule	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Comments:

G. OPERATION AND MAINTENANCE

Treatment Facility Properly Operated & Maintained	YES	NO	N/A	N/E
a. Standby power available: Generator: <input type="checkbox"/> Dual Feed: <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Adequate alarm system available for power or equipment failures	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. All treatment units in service other than backup units	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Sufficient operating staff provided: # of shifts: <u>2</u> Days/Week: <u>24/7</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Operator holds unexpired license of class required by permit. Class: _____	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Copy of certificate of Operator of Record displayed on-site	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Minimum operator staffing requirements fulfilled (OAC 3745-7)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h. Routine & preventive maintenance schedule/performed on time	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Any major equipment breakdown since last inspection	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Operation & maintenance manual provided & maintained	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Any plant bypasses since last inspection	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. Regulatory agency notified of bypasses: On MORS: <input type="checkbox"/> 800 No.: <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
m. Any hydraulic and/or organic overloads experienced since last inspection	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

Record Keeping	YES	NO	N/A	N/E
a. Log book provided	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Log book kept on-site	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Log book contains the following:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1. Identification of treatment works	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Date/Time of arrival/departure of ORC	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Daily record of operation and maintenance activities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Laboratory results (unless documented on bench sheets)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Identification of person making log entries	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Is the ORC submitting written notification to Ohio EPA and permittee when a collection system overflow, treatment plant bypass or effluent limit violation has occurred.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Comments:

H. SLUDGE MANAGEMENT

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

Comments:

I. SELF-MONITORING PROGRAM

Part 1 – Flow Measurement	YES	NO	N/A	N/E
a. Primary flow measuring device properly operated & maintained. Type of device: <input type="checkbox"/> Ultrasonic & parshall flume <input type="checkbox"/> Calculated from influent <input type="checkbox"/> Weir <input type="checkbox"/> Other <input type="checkbox"/> Ultrasonic & weir specify: <u>Parshall Flume w/Bubbler</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Calibration frequency adequate. Date of last calibration: <u>001-9/27/10 603-11/3/10</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Secondary instruments (totalizers, recorders, etc.) properly operated and maintained	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Flow measurement equipment adequate to handle expected ranges of flows	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Actual flow discharged is measured	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Flow measuring equipment inspection frequency: <input checked="" type="checkbox"/> Daily <input type="checkbox"/> Monthly <input type="checkbox"/> Weekly <input type="checkbox"/> Other				

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

Comments:

Part 3 - Laboratory, General	YES	NO	N/A	N/E
a. Written Standard Operating Procedures (SOPs) for all analysis performed on-site	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. EPA approved analytical testing procedures used (40 CFR 136.3)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. If alternate analytical procedures are used, proper approval has been obtained	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Analysis being performed more frequently than required by permit	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. If (c) is yes, are results reported in permittee's self-monitoring report	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Commercial laboratory used:				
1. Parameters analyzed by commercial lab: <u>All permit parameters except pH + CL2</u>				
2. Lab name: <u>Summit Environmental Technology Cuyahoga Falls, Ohio</u>				

Comments:

Part 3 – Laboratory, Quality Control/Quality Assurance	YES	NO	N/A	N/E
a. Quality assurance manual provided and maintained	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Satisfactory calibration and maintenance of instruments and equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Adequate records maintained	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Results of latest U.S. EPA quality assurance performance sampling program: Date: <u>7/2/10</u> <input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Marginal <input type="checkbox"/> Unsatisfactory				

Comments:

J. EFFLUENT/RECEIVING WATER OBSERVATIONS

Outfall #	Oil Sheen	Grease	Turbidity	Visible Foam	Visible Float Solids	Color	Other
001	-----	-----	-----	-----	-----	-----	-----
603	-----	-----	-----	-----	-----	-----	-----

Comments:

K. MULTIMEDIA OBSERVATIONS

Collection System	YES	NO	N/A	N/E
a. Are there indications of sloppy housekeeping or poor maintenance in work and storage areas or laboratories	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Do you notice staining or discoloration of soils, pavement, or floors	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Do you notice distressed (unhealthy, discolored, dead) vegetation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Do you see unidentified dark smoke or dustclouds coming from sources	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Do you notice any unusual odors or strong chemical smells	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Do you see any open or unmarked drums, unsecured liquids, or damaged containment facilities	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If any of the above are observed, ask the following questions:

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

Comments:

General Lab Criteria

Facility: Sunoco Chemicals

Criteria	Standard Methods Requirement	Acceptable?		Rating
Balance		<input type="checkbox"/> Yes	<input type="checkbox"/> No	NR
• 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 ⁵		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:				

Criteria	Standard Methods Requirement	Acceptable?		Rating
Incubating Oven (Suspended Solids)		<input type="checkbox"/> Yes	<input type="checkbox"/> No	NR
• Temperature Recordkeeping	• Temperature recorded with each use ⁴	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book maintained ⁵	<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:				

Criteria	Standard Methods Requirement	Acceptable?		Rating
pH Meter		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	A
• 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 maintained ⁹	<input checked="" type="checkbox"/> Yes	<input 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: 001- Facility Lab				

General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?	Rating
Dissolved Oxygen Meter			NR
• Calibration Method	• Air or known DO calibration method ¹⁰	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Calibration per manufacturer specification ¹⁰	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Calibration Frequency/ Documentation	• Logbook maintained ⁹	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Calibration verification required at least once each day the meter is used. ³	<input 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 type="checkbox"/> Yes <input type="checkbox"/> No	
	• Instrument manual available	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Comments:			

Criteria	Standard Methods Requirement	Acceptable?	Rating
Incubator (CBOD/E-Coli)			NR
• Temperature Recordkeeping	• Temperature checked/recorded twice daily for each shelf in use ¹	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Acceptable temperature range (CBOD) is 20°C ±1.0° ¹²	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Acceptable temperature range (E-Coli) is 35°C ±0.5° ²²	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Logbook maintained ⁹	<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	
	• Temperature correction information posted on incubator ¹	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• E-Coli can use multiple tubes (five 20 ml or ten 10 mg), or mfg's multi-well tray	• E-coli Ultraviolet lamp (365 nm wave length, 6 W bulb) ²³	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Other	• Instrument manual available	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Temperature Log (thermometer reads to 0.1 Celsius) ⁵	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Comments:			

Criteria	Standard Methods Requirement	Acceptable?	Rating
Refrigerator			NR
• Temperature Recordkeeping	• Temperature Log (thermometer reads to 0.1 Celsius) ⁵	<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	
• Other	• Thermometer held in water bath ¹	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Refrigerator temperature ±0° Celsius ¹³	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Do not store volatile solvents, food, or beverages ¹⁴	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Comments:			

Criteria	Standard Methods Requirement	Acceptable?	Rating
Chlorine Meter			A
• Calibration Frequency/ Documentation	• pH/millivolt meter read to 0.1 mV ¹⁵	<input checked="" 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 checked="" 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

General Lab Criteria

	<ul style="list-style-type: none"> • Standards used for calibration not expired 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> • Slope Documentation/ Acceptability 	<ul style="list-style-type: none"> • Calibration curve (acceptable slope) 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> • Other 	<ul style="list-style-type: none"> • Electrode free of deposits and foreign material 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Log book being maintained⁹ • Instrument manual available 	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:				

Criteria	Standard Methods Requirement	Acceptable?		Rating
Ammonia 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	NR
		<ul style="list-style-type: none"> • Log book being maintained⁹ 	<input type="checkbox"/> Yes	
<ul style="list-style-type: none"> • Slope Acceptability 	<ul style="list-style-type: none"> • Verify calibration slope is acceptable (per mfg. spec.) 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> • Calibration Method 	<ul style="list-style-type: none"> • 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	
		<ul style="list-style-type: none"> • Standards used for calibration not expired 	<input type="checkbox"/> Yes	
<ul style="list-style-type: none"> • Other 	<ul style="list-style-type: none"> • Electrode free of deposits and foreign material 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Teflon covered magnetic stirrer or equivalent for mixing¹⁸ 	<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:				

Criteria	Standard Methods Requirement	Acceptable?		Rating	
Sample Collection/Handling					
<ul style="list-style-type: none"> • Sample Labeling 	<ul style="list-style-type: none"> • Samples container labeled (description, date, time, preservative added, initialed)¹⁹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	NR	
<ul style="list-style-type: none"> • Chain of Custody 	<ul style="list-style-type: none"> • Chain of custody (description, date, time, signature)¹⁹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
<ul style="list-style-type: none"> • Other 	<ul style="list-style-type: none"> • Composite samples refrigerated during sample collection¹⁴ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
		<ul style="list-style-type: none"> • Equipment blanks utilized¹⁴ 	<input type="checkbox"/> Yes		<input type="checkbox"/> No
		<ul style="list-style-type: none"> • SOP for cleaning of sampling equipment • Log book being maintained⁹ 	<input type="checkbox"/> Yes		<input type="checkbox"/> No
Comments:					

Criteria	Standard Methods Requirement	Acceptable?		Rating
Desiccator				
<ul style="list-style-type: none"> • General Criteria 	<ul style="list-style-type: none"> • Properly working seals 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	NR
		<ul style="list-style-type: none"> • Desiccant fresh (blue color) 	<input type="checkbox"/> Yes	
<ul style="list-style-type: none"> • Documentation 	<ul style="list-style-type: none"> • Log book being maintained⁹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:				

General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?		Rating
Bench Sheets		<input type="checkbox"/> Yes	<input type="checkbox"/> No	NR
<ul style="list-style-type: none"> • General Criteria 	<ul style="list-style-type: none"> • Date(s)² 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Analyst initials² 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Blue or black ink pen² 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Calibration information² 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Equations, calculations, units for all measurements, notations, and results present² 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> • Corrections, single line through, initialed and dated² 	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
Comments:				

Criteria	Standard Methods Requirement	Acceptable?		Rating
Hot Water Bath (Fecal Coliform/E. Coli)		<input type="checkbox"/> Yes	<input type="checkbox"/> No	NR
<ul style="list-style-type: none"> • Temperature Recordkeeping 	<ul style="list-style-type: none"> • Temperature Log (thermometer reads 0.2° C)²¹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Incubator temperature 44.5° C ±0.2°^{21/24} 	<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"> • Log book being maintained⁹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> • Water Level 	<ul style="list-style-type: none"> • 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		<input type="checkbox"/> Yes	<input type="checkbox"/> No	NR
<ul style="list-style-type: none"> • All apparatus utilized is adequately sterilized before use 	<ul style="list-style-type: none"> • Sterilizing temperature 121° C²⁵ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • 10 to 30 minutes time based on material being sterilized²⁶ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> • Documentation 	<ul style="list-style-type: none"> • Verify the autoclave temperature weekly by using a maximum registering thermometer (MRT) to confirm that 121°C has been reached as measured in the exhaust¹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Date, contents, sterilization time and temperature, total time in autoclave, and analyst's initials should be recorded each time the autoclave is used¹ 	<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"> • Log book being maintained⁹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> • Performance Checks 	<ul style="list-style-type: none"> • Test monthly for efficacy using a biological such as commercially available <i>Geobacillus stearothermophilus</i> in spore strips, suspensions, or capsules¹ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:				

General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?		Rating
Final Effluent Temperature Monitoring				NR
<ul style="list-style-type: none"> • General Criteria 	<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"> • Thermometer reads in increments of at least 0.1°C⁵ 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> • Log book being maintained² 	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:				

Number of Criteria Rated:	Acceptable	2
	Marginal	0
	Unacceptable	0
	Total Number of Areas Rated	2

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 by perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, require deficiencies to be addressed in written response).	
Unsatisfactory Rating – Improvements required, written response required, NOV issued (recommend SOP's be written or updated, recommend they perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, require deficiencies to be addressed in written response to NOV).	
Consider recommending PAI Audit from DES when:	<ul style="list-style-type: none"> >60% of ratings are Marginal >45% of ratings are a combination of Marginal or Unacceptable >30% of ratings are Unacceptable

General Lab Criteria

Notation of Referenced Method

1	Method 9020-B, Item 4	14	Method 1060A, Item 1
2	Method 1020-A, Item 1	15	Method 4500-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-B, Item 1	19	Method 1060-B, Item 2
7	Method 4500-H B, Item 4	20	Method 1060-B, Item 1
8	Method 4500-H B, Item 2	21	Method 9222D, Item 1
9	Method 1020-B, Item 2	22	Method 9223 B, Item 2
10	Method 4500-O B, Item 3	23	Method 9223 B, Item 3
11	Method 4500-O G, Item 3	24	Method 1603, Item 2
12	Method 5210-B, Item 5	25	Method 9030-B, Item 3
13	CFR 136.3, Table II	26	Method 9020 B, Table IV

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

Preservation and Holding Times						
Parameter	Container	Min. Sample Size (mL)	Sample Type	Preservation	Maximum Storage Time	
					Recommended	Regulatory
BOD / CBOD	P, G	1000	G, C	Refrigerate $\leq 6^{\circ}\text{C}$	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	G, C	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

General Lab Criteria

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