



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

March 14, 2013

Montgomery County Board of Commissioners  
451 West Third Street  
Dayton, Ohio 45422

**RE: WESTERN REGIONAL WWTP COMPLIANCE EVALUATION INSPECTION**

Ladies and Gentlemen:

On March 8, 2013, I conducted a Compliance Evaluation Inspection at the Western Regional WWTP facility as well as a Reconnaissance Inspection (RI) for the general permit covering Western Regional's storm water discharge. Copies of my inspection reports are enclosed. The inspection reports contain no marginal or unsatisfactory ratings.

As this was the initial Storm Water General Permit inspection, it is understood that the requirements of the permit 1GR01012/OHR00005 for Western Regional have not been discussed previously. A fact sheet on this permit can be found at: [http://epa.ohio.gov/portals/35/permits/IndustrialStormWater\\_Final\\_GP\\_FS\\_dec11.pdf](http://epa.ohio.gov/portals/35/permits/IndustrialStormWater_Final_GP_FS_dec11.pdf)

Although Western Regional has conducted storm water evaluations at the WWTP, they were not aware that records of said evaluations need to be kept for 3 years. A sample of Recordkeeping Templates can be found at: [http://epa.ohio.gov/portals/35/permits/IndustrialStormWater\\_SampleRecordkeepingTemplates.doc](http://epa.ohio.gov/portals/35/permits/IndustrialStormWater_SampleRecordkeepingTemplates.doc)

In conclusion, please note that records will need to be kept for the quarterly and annual storm water inspections you conduct at the WWTP.

Montgomery County Board of Commissioners  
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If you have any questions or comments concerning the contents of this letter, please feel free to contact me at this office.

Sincerely,



Maureen M. Ware  
Environmental Specialist  
Division of Surface Water

Enclosures

cc: Mark Livengood, Superintendent Water Reclamation Division

ec: Public Health Dayton and Montgomery County

MMW\bp



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
1PL00002	OH0026638	03/08/2013	C	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	Entry Time	Permit Effective Date
Western Regional Water Reclamation Facility 4111 Hydraulic Rd. West Carrollton, Ohio 45449	9:00AM	08/01/2009
	Exit Time	Permit Expiration Date
	1:30PM	01/31/2014
Name(s) and Title(s) of On-Site Representatives	Phone Number(s)	
Steve McNabb, Team Leader Mark Livengood, Superintendent	513-925-1643	
Name, Address and Title of Responsible Official	Phone Number	
Montgomery County Board of Commissioners 451 W. Third St. Dayton, Ohio 45422		

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

**Section D: Summary of Findings (Attach additional sheets if necessary)**  
See comments in each section.

Inspector	Reviewer
 Maureen M. Ware Division of Surface Water Southwest District Office Date: 3/14/13	 Martyn Burt Environmental Supervisor Division of Surface Water Southwest District Office Date: 3/14/13

Sections E thru K: Complete on all inspections as appropriate  
Y – Yes, N – No, N/A – Not Applicable, N/E – Not Evaluated

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**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<br>in permit..... | Y |
| (f) Storm water discharges properly permitted.....                             | Y |

Comments/Status:

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**Section F: Compliance**

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

Comments/Status:

Compliance evaluated 1/1/12-1/31/13. Violations are noted on the last page of this report.

**Section G: Operation & Maintenance**

**Treatment Works:**

- Treatment facility properly operated and maintained..... Y
- (a) Standby power available.....generator  or dual feed ..... N/E
- i. What does the back-up power source operate.....
- entire WWTP
- ii. How often is the generator tested under load.....
- 1/quarter
- (b) Which components have an alarm system available for power or equipment failures.....
- all major equipment on SCADA system
- (c) All treatment units in service other than backup units..... N
- (d) What method is used for scheduling routine & preventative maintenance (calendar, software, etc.).....
- calendar
- (e) Any major equipment breakdown since last inspection..... Y
- (f) Operation and maintenance manual provided and maintained..... Y
- (g) Any plant bypasses since last inspection..... Y
- (h) Any plant upsets since last inspection..... Y

**Comments/Status:**

August 2012, Clean Water sent influent of 17,000 BOD to Western Regional. This caused the plant upset that resulted in violations of ammonia. The tertiary filters had to be bypassed in May of 2012 and January 2013 due to their influent being above 30 MGD. Diffusers are inoperable for tanks 5 & 7 of the 1<sup>st</sup> stage aeration. They are to be replaced June of 2013. Second stage RAS is inoperable, but sludge can be sent to the thickeners and digestion.

**Section G: Operation & Maintenance con't**

**Record Keeping/Operator of Record:**

- (a) Wastewater Treatment Works classification (OAC 3745-7)..... IV
- (b) Operator of Record holds unexpired license of class required by Permit..... Y
- (c) Copy of certificate of Operator of Record displayed on-site..... Y
- (d) Has the Operator of Record submitted an ORC Notification form.. Y
- (e) Minimum operator staffing requirements fulfilled (OAC 3745-7).... Y
- (f) If a Staffing Reduction plan has been approved, are the stipulations of the plan being met.....Y
- (g) Operator of Record log book provided..... Y
- (h) Format of log book (e.g. computer log, hard bound book)
 

hard bound
- (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)... N/A
  - 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:**

Currently Class II and III operators log information into the operator log book. The class IV log their hours at the WWTP on separate log sheets. Please note that a separate hardbound book of the Class IV log information can be kept separate from the Class II and III book, however it must meet all the requirements of the ORC book. Staff reduction was approved due to having a SCADA system and 24/7 staffing at the WWTP (inclusive of Class II and III).

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.....2
  - ii. How many pump stations have telemetered alarms.....all
  - iii. How many pump stations have operable alarms.....all
- (b) Any chronic collection system overflows since last inspection..... N
- (c) Regulatory agency notified of all overflows..... Y
- (d) Are there CSOs in the collection system..... N  
if so, what is the LTCP status.....
- (e) How are CSOs monitored (chalk, block, level sensor, etc.).....
- (f) Portable pumps available for collection system maintenance..... Y
- (g) RDII Program established and active..... Y
- (h) Any WIB complaint received since last inspection..... Y
- (i) Is there a WIB response plan..... Y
- (j) Is any portion of the collection system at or near dry weather capacity..... N

Comments/Status:

There were 10 SSO events in 2012 (not including WIBs). WIBs are currently only noted in the SSO annual report.

RDII program includes sewer lining, manhole rehabilitation, and camera investigation of sewer lines.

**Section H: Sludge Management**

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

- (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.....

(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..... Y

(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..... Y

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

If so, what is the name of the contractor.....

**Comments/Status:**

An odor complaint for sludge at the WWTP was noted in March 2012.

**Section I: Self-Monitoring Program**

**Flow Measurement:**

- (a) Primary/Secondary flow measuring devices (e.g. weir with ultrasonic level sensor):
- (b) Flow meter calibrated annually ..... Y  
 (Date of last calibration: 11/2012)
- (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

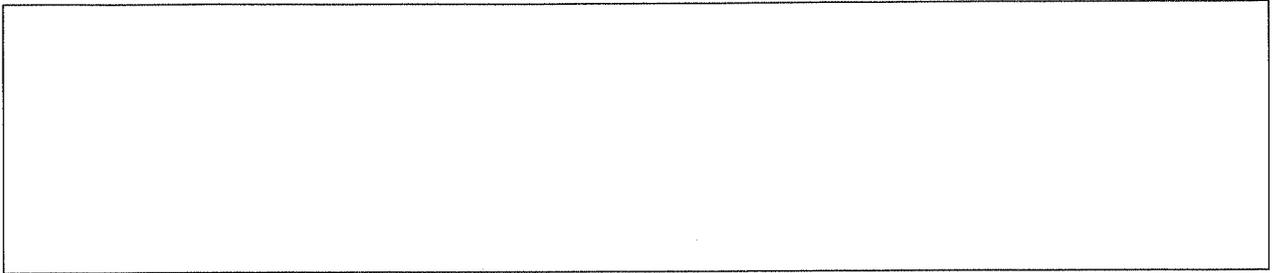
**Comments/Status:**

**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:**



**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/E

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

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

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

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

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

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

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

(g) Satisfactory calibration and maintenance of instruments/equipment. Y  
Commercial laboratory used..... N

Parameters analyzed by commercial lab: pH, DO and temperature are done on-site. All other parameters are done at the county laboratory.

Lab name:

*Discharge Monitoring Report Quality Assurance (DMRQA)*

(a) Participation in latest USEPA quality assurance performance

- sampling..... Y  
 Date:  
 (b) Were any parameters "Unsatisfactory"..... N  
 (c) Reasons for "Unsatisfactory" parameters.....

**Comments/Status:**

Currently the owner's manual is used as an SOP for the pH meter.

**Section J: Effluent/Receiving Water Observations**

Outfall # 001

Outfall Description: pipe

Receiving Stream: Great Miami River

Receiving Stream Description: turbid

**Comments/Status:**

Some foam was noted in the river near the outfall. It dissipated within approximately 100 feet.

**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.. Y
- (c) Do you notice distressed (unhealthy, discolored, dead) vegetation.. N/A
- (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:**

Some sewage foam was noted downwind of the 1<sup>st</sup> stage aeration in the grass (not in the aeration basin). ORC noted that foaming that caused the foam was due to influent from Clean Water.

**Violations**

Station	Code	Parameter	Limit Type	Limit	Reported	Date
001	00300	DO	1D Conc	6.0	5.7	3/8/2012
001	00610	NH3	30D Conc	2.0	7.00087	8/1/2012
001	00610	NH3	30D Qty	151	245.707	8/1/2012
001	00610	NH3	7D Conc	3.5	5.392	8/15/2012
001	00610	NH3	7D Conc	3.5	13.216	8/22/2012
001	00610	NH3	7D Qty	265	465.954	8/22/2012
001	00610	NH3	30D Conc	2.0	4.01526	9/1/2012
001	00610	NH3	7D Conc	3.5	12.475	9/1/2012
001	00610	NH3	7D Qty	265	472.561	9/1/2012
001	00610	NH3	7D Conc	3.5	4.06	9/8/2012

Industrial Storm Water Reconnaissance Inspection;

Name of facility; Western Regional WWTP

Address; 4111 Hydraulic Rd  
West Carrollton, Ohio 45449

Permit number; 1GR01012                      Applicable permit sector; T

Date of visit; 3/8/13                      Time started; 11:30                      Time ended; 12:30

Facility representative(s);              Mark Livengood, David Low, Kevin Krejny

OEPA inspector;              Maureen Ware

SWP3;

- A. Did the facility representative produce an SWP3?                      **Y**
- A1. Did it include a site map?                      **Y**
- A2. Did it include schedules and procedures for the quarterly routine facility inspections?                      **Y**
- A3. Did it include schedules and procedures for the comprehensive annual facility inspection?                      **Y**
- A4. Did it include schedules and procedures for the quarterly visual assessment of storm water discharges ?                      **N**
- A5. If benchmark monitoring is required, does the SWP3 describe how and when that will be done?                      **NA**

Comments; Currently storm water outfalls are monitored monthly and quarterly, but records are not kept for the monitoring. Please note that all records for permit 1GR01012 must be kept for 3 years.

Inspection records:

- B. Were inspection records available? **N**

Comments: Currently, records are not being kept.

Site Observations:

C. Are materials stored exposed to weather? **N.**  
If Yes, list materials.

D. Are there any structural storm water management practices used onsite? Examples include grassed swales, permeable pavement, inlet filters, detention ponds, engineered wetlands, mulch berms, silt fence, rain gardens . Grassy Swales are used. **Y**

E. Number of outfalls from site/number inspected: **5/2**

G. Did any show evidence of pollutants discharged in the storm water? **N**

If yes, describe;

H. Other observations/comments;



# General Lab Criteria

Criteria	Standard Methods Requirement		Rating
<b>pH Meter</b>			<b>A</b>
<ul style="list-style-type: none"> <li>• Calibration Frequency / Documentation</li> </ul>	<ul style="list-style-type: none"> <li>• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples)<sup>3</sup></li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Logbook maintained<sup>2</sup></li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Minimum of 2 point calibration</li> </ul>	<ul style="list-style-type: none"> <li>• Calibration per manufacturer specification and calibration buffers must bracket anticipated result<sup>7</sup></li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Slope Documentation / Acceptability</li> </ul>	<ul style="list-style-type: none"> <li>• Slope acceptable range indicated on benchsheet<sup>2</sup></li> </ul>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Buffer Expiration Date</li> </ul>	<ul style="list-style-type: none"> <li>• Buffers must not be expired</li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Other</li> </ul>	<ul style="list-style-type: none"> <li>• Instrument manual available</li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Teflon covered magnetic stirrer or equivalent for mixing<sup>8</sup></li> </ul>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Comments: : 4, 7, and 10 buffers are used for calibration. The acceptable slope will be added to the benchsheet in the future. The manual for the pH meter is on-line.			
Criteria	Standard Methods Requirement		Rating
<b>Dissolved Oxygen Meter</b>			
<ul style="list-style-type: none"> <li>• Calibration Method</li> </ul>	<ul style="list-style-type: none"> <li>• Air or known DO calibration method<sup>10</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Calibration per manufacturer specification<sup>10</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Calibration Frequency / Documentation</li> </ul>	<ul style="list-style-type: none"> <li>• Logbook maintained<sup>2</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Calibration verification required at least once each day the meter is used.<sup>3</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Other</li> </ul>	<ul style="list-style-type: none"> <li>• Small to no bubble present under membrane (must be smaller than the lead in number 2 pencil)<sup>11</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Instrument manual available</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Comments:			

# General Lab Criteria

Criteria	Standard Methods Requirement		Rating
<b>Incubator (CBOD/ E-Coli)</b>			
<ul style="list-style-type: none"> <li>• Temperature Recordkeeping</li> </ul>	<ul style="list-style-type: none"> <li>• Temperature checked / recorded twice daily for each shelf in use<sup>1</sup> (E-Coli)</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Temperature checked / recorded daily<sup>2</sup> (CBOD)</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Acceptable temperature range (CBOD) is 20° C ±1.0 °<sup>12</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Acceptable temperature range (E-Coli) is 35° C ±0.5 °<sup>22</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Logbook maintained<sup>2</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Temperature Calibration / Documentation</li> </ul>	<ul style="list-style-type: none"> <li>• Thermometer calibrated annually with NIST traceable thermometer<sup>1,2</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Temperature correction information posted on incubator<sup>1</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• E-Coli can use multiple tubes (five 20 ml or ten 10 ml), or mfg's multi-well tray</li> </ul>	<ul style="list-style-type: none"> <li>• E-coli Ultraviolet lamp (365 nm wave length, 6 W bulb)<sup>23</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Other</li> </ul>	<ul style="list-style-type: none"> <li>• Instrument manual available</li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Temperature Log (thermometer accurate to 0.5 Celsius).<sup>1</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Comments: :

Criteria	Standard Methods Requirement		Rating
<b>Refrigerator</b>			
<ul style="list-style-type: none"> <li>• Temperature Recordkeeping</li> </ul>	<ul style="list-style-type: none"> <li>• Temperature Log (thermometer accurate to 0.5 Celsius).<sup>5</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Temperature Calibration / Documentation</li> </ul>	<ul style="list-style-type: none"> <li>• Thermometer calibrated annually with NIST traceable thermometer<sup>1,2</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Other</li> </ul>	<ul style="list-style-type: none"> <li>• Thermometer held in water bath.<sup>1</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Refrigerator temperature ≤6° Celsius.<sup>13</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Do not store volatile solvents, food, or beverages.<sup>14</sup></li> </ul>	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Comments:

# General Lab Criteria

Criteria	Standard Methods Requirement		Rating
<b>Chlorine Meter</b>			
		Acceptable?	
• Calibration Frequency / Documentation	• pH / millivolt meter read to 0.1 mV <sup>15</sup>	<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) <sup>3</sup>	<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 <sup>16</sup>	<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. <sup>2</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Instrument manual available	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Comments: :			

Criteria	Standard Methods Requirement		Rating
<b>Ammonia Meter</b>			
		Acceptable?	
• Calibration Frequency / Documentation	• Calibration verification required for testing over long period of time (e.g. 12 hrs.), or after a large number of samples (every 10 samples) <sup>3</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Log book being maintained <sup>2</sup>	<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. <sup>17</sup>	<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 <sup>18</sup>	<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		Rating
<b>Sample Collection/Handling</b>	Acceptable?		<b>A</b>
• Sample Labeling	• Samples container labeled (description, date, time, preservative added, initialed). <sup>19</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
• Chain of Custody	• Chain of custody (description, date, time, signature). <sup>19</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
• Other	• Composite samples refrigerated during sample collection <sup>14</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Equipment blanks utilized <sup>14</sup>	<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 <sup>2</sup>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<p>Comments: Currently in lieu of a logbook, the date and initials of the person that changed the hose on the autosampler is noted on the actual hose. A log will be started for the autosampler cleaning in the future. The cleaning of the autosampler is done using the manufacturers manual.</p>			
Criteria	Standard Methods Requirement		Rating
<b>Desiccator</b>	Acceptable?		
• 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 <sup>2</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<p>Comments:</p>			
Criteria	Standard Methods Requirement		Rating
<b>Bench sheets</b>	Acceptable?		<b>A</b>
• General criteria	• Date(s) <sup>2</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Analyst initials <sup>2</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Blue or black ink pen <sup>2</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Calibration information <sup>2</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Equations, calculations, units for all measurements, notations, and results present <sup>2</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Corrections, single line through, initialed and dated <sup>2</sup>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<p>Comments: Some units were not noted on the benchsheets. An error was lined through, but did not have the initials and date. Initials and dates will be included in the future, as will all units.</p>			

# General Lab Criteria

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Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Hot Water Bath (Fecal Coliform/E. Coli)</b>				
<ul style="list-style-type: none"> <li>• Temperature Recordkeeping</li> </ul>	<ul style="list-style-type: none"> <li>• Temperature Log (thermometer accurate to 0.2° C)<sup>21</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Incubator temperature 44.5° C ± 0.2°<sup>21/24</sup></li> </ul>			
<ul style="list-style-type: none"> <li>• Temperature Calibration / Documentation</li> </ul>	<ul style="list-style-type: none"> <li>• Thermometer calibrated annually with NIST traceable thermometer<sup>1, 2</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Log book being maintained<sup>2</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Water Level</li> </ul>	<ul style="list-style-type: none"> <li>• Thermometer total immersion or partial (line on thermometer to ID immersion depth)<sup>1, 5</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:				

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Autoclaves/Steam Sterilizers</b>				
<ul style="list-style-type: none"> <li>• All apparatus utilized is adequately sterilized before use</li> </ul>	<ul style="list-style-type: none"> <li>• Sterilizing temperature 121° C<sup>25</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• 10 to 30 minutes time based on material being sterilized<sup>26</sup></li> </ul>		<input type="checkbox"/> Yes	
<ul style="list-style-type: none"> <li>• Documentation</li> </ul>	<ul style="list-style-type: none"> <li>• 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.<sup>1</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Date, contents, sterilization time and temperature, total time in autoclave, and analyst's initials should be recorded each time the autoclave is used<sup>1</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Temperature Calibration / Documentation</li> </ul>	<ul style="list-style-type: none"> <li>• Thermometer calibrated annually with NIST traceable thermometer<sup>1,2</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Log book being maintained<sup>2</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
<ul style="list-style-type: none"> <li>• Performance Checks</li> </ul>	<ul style="list-style-type: none"> <li>• Test monthly for efficacy using a biological such as commercially available <i>Geobacillus stearothermophilus</i> in spore strips, suspensions, or capsules<sup>1</sup></li> </ul>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:				

# General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?		Rating	
<b>Final Effluent Temperature Monitoring</b>					
• General Criteria	• Thermometer calibrated annually with NIST traceable thermometer <sup>1,2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
	• Thermometer scaled to 0.1° Celsius and accurate to 0.5° C <sup>5</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
	• Log book being maintained <sup>2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
Comments:					
<b>Number of Criteria Rated:</b>				<b>Acceptable</b>	3
				<b>Marginal</b>	0
				<b>Unacceptable</b>	0
				<b>Total Number of Areas Rated</b>	3
<p><b>Acceptable Ratings</b> – 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><b>Marginal Ratings</b> – 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><b>Unsatisfactory Rating</b> - 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>					
<p>Consider recommending PAI Audit from DES when:</p>		<p>&gt;60% of ratings are Marginal &gt;45% of ratings are a combination of Marginal or Unacceptable &gt;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 $\leq 6^{\circ}$ C	6h	48h
TSS	P, G	200	G, C	Refrigerate $\leq 6^{\circ}$ 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 $\leq 6^{\circ}$ 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 $\leq 6^{\circ}$ C	7 d	14 d
Base/Neutrals and acids	G (solvent rinsed or baked)	1000	C, G	Refrigerate $\leq 6^{\circ}$ C	7 d	7 days until extraction 40 days after extraction
Pesticides	G (PTFE lined lid)	1000	C	Refrigerate $\leq 6^{\circ}$ C	7 d	7 days until extraction 40 days after extraction
Fecal Coliform / E-Coli	G, P (Sterilized)	100	G	Refrigerate $\leq 10^{\circ}$ 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 $\leq 6^{\circ}$ 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