



**Environmental  
Protection Agency**

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

May 1, 2012

**Re:** Harrison County  
Village of Scio  
Compliance Evaluation Inspection  
NPDES Permit 0PB00058\*GD  
Correspondence (PWW)

Mayor and Council  
Village of Scio  
306 E. Main Street  
P.O. Box 307  
Scio, Ohio 43988

Dear Mayor and Council:

On April 12, 2011, I conducted a compliance evaluation inspection of the Village of Scio wastewater treatment facility located at Allensworth Drive and State Route 151. Bill Battey, operator, represented the village and accompanied me during the inspection. The purpose of the inspection was to determine the village's compliance with NPDES Permit Number 0PB00058\*GD and the Ohio Water Pollution Control Act, Revised Code Chapter 6111.

As a result of the inspection and review of our files, I have the following comments:

1. The plant effluent flow meter had been repaired and was functioning.
2. The comminutor, the inner oxidation ditch, the sludge transfer line (to the drying beds), and the plant generator, were not functioning. The aerobic sludge holding tank was not being utilized, and the aeration was reportedly possibly inoperable. Part II, Item D of the permit requires you to maintain these and operate them as efficiently as possible. All treatment units should be utilized, so that periodic high flows due to clean water intrusion into the collection system are handled most effectively. The comminutor has reportedly been put back into operation.
3. There was some debris on the clarifier effluent weir. Some solid material was present in the former chlorine contact tank.
4. A review of the Discharge Monitoring Reports (DMR's) for the period February 2010 thru August 2011, reveals many effluent limitation violations and one code violation, as listed below.

5. Biosolids are reportedly being washed out of the facility during periods of high flows, which are caused by clean water infiltration/inflow into the collection system. In addition the sludge handling system needs to be repaired. The line which allows sludge transfer to the drying beds must be fixed immediately. We have brought this to the village's attention before. Any problems with the aerobic sludge holding tank(s) aeration must be fixed, and the units restored to operation and utilized. The drying beds should be utilized to dewater the sludge and make handling of the material easier. Records of sludge hauling to other publicly owned treatment facilities must be maintained on-site.
  
6. The village must work to eliminate clean water intrusion into the collection system. This is imperative to enable the treatment system to function properly. It appears that more smoke testing of the collection system and a manhole survey should be completed.

Station	Reporting Code	Parameter	Limit Type	Limit	Reported Value	Violation Date
<b>May 2010:</b>						
001	31616	Fecal Coliform	7D Conc	2000	3200.	5/8/2010
001	31616	Fecal Coliform			AK	5/5/2010
<b>July 2010:</b>						
001	31616	Fecal Coliform	7D Conc	2000	2200.	7/1/2010
<b>August 2010:</b>						
001	31616	Fecal Coliform	7D Conc	2000	9500.	8/22/2010
<b>September 2010:</b>						
001	31616	Fecal Coliform	7D Conc	2000	8900.	9/8/2010
<b>October 2010:</b>						
001	31616	Fecal Coliform	7D Conc	2000	7000.	10/22/2010
001	31616	Fecal Coliform	7D Conc	2000	21000.	10/1/2010
<b>January 2011:</b>						
001	00530	Total Suspended Solids	7D Conc	45	47.5	1/22/2011
001	00530	Total Suspended Solids	7D Qty	34.1	43.8568	1/22/2011
001	00530	Total Suspended Solids	30D Qty	22.7	22.7440	1/1/2011
001	00530	Total Suspended Solids	7D Conc	45	57.5	1/15/2011
001	00530	Total Suspended Solids	7D Qty	34.1	43.4934	1/15/2011
001	00530	Total Suspended Solids	30D Conc	30	30.625	1/1/2011
<b>February 2011:</b>						
001	00530	Total Suspended Solids	30D Conc	30	43.375	2/1/2011
001	80082	CBOD 5 day	30D Conc	25	34.375	2/1/2011
001	80082	CBOD 5 day	7D Qty	30.3	42.5926	2/22/2011
001	00530	Total Suspended Solids	30D Qty	22.7	37.0915	2/1/2011
001	00530	Total Suspended Solids	7D Qty	34.1	49.8011	2/22/2011
001	00530	Total Suspended Solids	7D Conc	45	72.5	2/1/2011
001	80082	CBOD 5 day	30D Qty	19.0	24.6701	2/1/2011
001	00530	Total Suspended Solids	7D Qty	34.1	75.5126	2/1/2011

Station	Reporting Code	Parameter	Limit Type	Limit	Reported Value	Violation Date
<b>March 2011:</b>						
001	00530	Total Suspended Solids	7D Qty	34.1	34.7084	3/1/2011
001	80082	CBOD 5 day	30D Conc	25	32.	3/1/2011
001	80082	CBOD 5 day	30D Qty	19.0	21.6770	3/1/2011
<b>April 2011:</b>						
001	00530	Total Suspended Solids	30D Conc	30	35.625	4/1/2011
001	00530	Total Suspended Solids	7D Conc	30	32.5	5/1/2011
<b>May 2011:</b>						
001	31616	Fecal Coliform	30D Conc	1000	9710.78	5/1/2011
001	00530	Total Suspended Solids	30D Conc	20	25.7777	5/1/2011
001	31616	Fecal Coliform	7D Conc	2000	8700.	5/15/2011
001	31616	Fecal Coliform	7D Conc	2000	20800.	5/22/2011
001	31616	Fecal Coliform	7D Conc	2000	18900.	5/1/2011
001	31616	Fecal Coliform	7D Conc	2000	2600.	5/8/2011
<b>July 2011:</b>						
001	31616	Fecal Coliform	30D Conc	1000	3263.71	7/1/2011
001	31616	Fecal Coliform	7D Conc	2000	5700.	7/22/2011
001	31616	Fecal Coliform	7D Conc	2000	11000.	7/8/2011
001	31616	Fecal Coliform	7D Conc	2000	11600.	7/15/2011
<b>August 2011:</b>						
001	31616	Fecal Coliform	30D Conc	1000	1138.85	8/1/2011
001	31616	Fecal Coliform	7D Conc	2000	3700.	8/1/2011

Attached is a copy of the inspection report which indicates unsatisfactory evaluations in a number of areas. I gave these ratings because of the deficiencies mentioned in the above comments (and in the attached report). The Village of Scio must take the appropriate actions to return the facility to compliance with all terms and conditions of the NPDES permit.

Please respond to this letter in writing, within 14 days. If you have any questions, please contact me at (740) 380-5218.

Sincerely,



Dan Messerly  
District Representative  
Division of Surface Water

DM/dh

Enclosure

c: Chris Edwards, Operator of Record, Village of Scio

# NPDES Compliance Inspection Report

## A. NATIONAL DATA SYSTEM CODING

Permit No.	NPDES No.	Date	Inspection Type	Inspector	Facility Type
0PB00058*GD	OH0029271	April 12, 2011	C	S	1

## B. FACILITY DATA

Name & Location of Facility Inspected	Entry Time	Permit Effective Date
Village of Scio Wastewater Treatment Works Allensworth Drive and State Route 151 Scio, Ohio	11:40 a.m.	August 1, 2008
	Exit Time	Permit Expiration Date
	~2:30 p.m.	July 31, 2013

Name(s) & Title(s) of On-Site Representative(s)	Phone Number(s)
William Beatty, Operator Chris Edwards, Class II W.W., Operator of Record (not present during inspection)	(740) 945-9815 (wwtp) (330) 691-0036
Name, Address, & Title of Responsible Official	Phone Number
Bob Hendricks, Mayor Village of Scio P.O. Box 307, 306 E. Main Street Scio, Ohio 43988	(740) 945-5571 (740) 945-1115 (Street Dept)

## C. AREAS EVALUATED DURING INSPECTION

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

  
 \_\_\_\_\_  
 Dan Messerly, Inspector, Ohio EPA, Southeast District Office

5-1-12  
 \_\_\_\_\_  
 Date

  
 \_\_\_\_\_  
 Jennifer M. Witte, Reviewer, Ohio EPA, Southeast District Office

5/1/12  
 \_\_\_\_\_  
 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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"/>

**F. COMPLIANCE SCHEDULES/VIOLATIONS**

	YES	NO	N/A	N/E
a. Any significant violations since the last inspection	<input checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Compliance schedule contained in: <u>Part II, Item S</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Permittee is meeting compliance schedule	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. All treatment units in service other than backup units	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Sufficient operating staff provided: # of shifts: <u>1</u> Days/Week: <u>5 +weekend</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Operator holds unexpired license of class required by permit. Class: <u>II</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Routine & preventive maintenance schedule/performed on time	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Any major equipment breakdown since last inspection	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Operation & maintenance manual provided & maintained	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Any plant bypasses since last inspection	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. 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"/>
k. Any hydraulic and/or organic overloads experienced since last inspection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Comments:** a. Have plant generator; it does not work.  
 b. No alarm system for treatment facility.  
 c. Sludge aerobic holding tank not in service. Sludge line to drying beds not operable.  
 g. See cover letter.  
 h. Operator believes there is an old manual that is not up to date.  
 i. Power outage (24 hours) Sept. 2008.  
 j. In last year no plant bypasses.  
 k. Frequent hydraulic overloads due to I/I.

Collection System	YES	NO	N/A	N/E
a. Percent combined system. Percent: <u>0</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Any collection system overflows since last inspection: CSO: <input type="checkbox"/> SSO: <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Regulatory agency notified of overflow (SSOs)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. CSO O&M plan provided and implemented	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. CSOs monitored and reported in accordance with permit	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Portable pumps used to relieve system	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Lift station alarm systems provided and maintained	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Are lift stations equipped with permanent standby power or equivalent	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Is there an inflow/infiltration problem (separate sewer system), or were there any major repairs to collection system since last inspection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Any complaints received since last inspection of basement flooding	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. Are any portions of the sewer system at or near capacity	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Comments:**

- b. Overflow of Church Street pump station in February 2011.
- f. Yes, have portable pumps (three - a 4", 2", sump)
- g. No level alarm phone dialers on lift stations.
- h. One has standby power (Church Street).

**H. SLUDGE MANAGEMENT**

	YES	NO	N/A	N/E
a. Sludge adequately disposed. Method: <u>hailed to POTW</u>	<input type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>
c. Is sludge disposal contracted? Name: _____	<input type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>
g. Records kept in accordance with state rules	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Comments:**

- c. Sludge cleaned from chlorine contact tank (2 x/year) is reportedly hauled by Erwin Septic Service to a POTW (Canton WWTP or Carrollton WWTP); I/I washing out treatment system.
- k. Drying beds not being utilized; pathogen control through aerobic digestion not verified by analysis; aerobic sludge holding needs some maintenance; sludge line leading to drying beds not operable.

## 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 checked="" 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: _____	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Calibration frequency adequate. Date of last calibration: <u>April 2010</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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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				

**Comments:**

b. Flow meter should be calibrated annually by technician on-site. W. Beatty did set-up and self-test of meter in April 2010; in May 2011 a Honeywell technician calibrated the meter.

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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Samples refrigerated during compositing	<input type="checkbox"/>	<input checked="" 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:**

d. Composite sampler offline due to problem pulling water through tube.

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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. If alternate analytical procedures are used, proper approval has been obtained	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Analysis being performed more frequently than required by permit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. If (c) is yes, are results reported in permittee's self-monitoring report	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Commercial laboratory used: 1. Parameters analyzed by commercial lab: <u>all except pH, D.O., Temp.</u> 2. Lab name: <u>Coshocton Environmental</u>				

**Comments:**

Part 3 – Laboratory, Quality Control/Quality Assurance	YES	NO	N/A	N/E
a. Quality assurance manual provided and maintained	<input type="checkbox"/>	<input checked="" 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: _____ <input type="checkbox"/> Satisfactory <input type="checkbox"/> Marginal <input type="checkbox"/> Unsatisfactory				

**Comments:**

N/A

**J. EFFLUENT/RECEIVING WATER OBSERVATIONS**

Outfall #	Oil Sheen	Grease	Turbidity	Visible Foam	Visible Float Solids	Color	Other
001	None	None	None	None	None	None	

**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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Do you notice staining or discoloration of soils, pavement, or floors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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: Village of Scio WWTP, 0PB00058\*GD, 4/12/11

Criteria	Standard Methods Requirement	Acceptable?	Rating
<b>Balance</b>			<b>N/A</b>
• Standard Weights	• Either NIST Class s or ASTM/ANSI Class 1 weights <sup>1,2</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Calibration Frequency/ Documentation	• Calibration verification required at least once each day the balance is used <sup>3</sup>	<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 <sup>1</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Other	• Service and recalibrate annually (manufacturer representative or comparable) <sup>1</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Must be able to measure to 0.1 grams <sup>4</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Instrument manual available	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Log book maintained <sup>6</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Comments:			

Criteria	Standard Methods Requirement	Acceptable?	Rating
<b>Drying Oven (Suspended Solids)</b>			<b>N/A</b>
• Temperature Recordkeeping	• Temperature recorded with each use <sup>4</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Log book maintained <sup>6</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Calibration Frequency/ Documentation	• Thermometer calibrated annually with NIST traceable thermometer <sup>1,2</sup> . Correction factor posted on thermometer/equipment <sup>1</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
• Other	• Thermometer temperature in 0.1°C increments <sup>5</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	• Acceptable temperature range is 103° – 105°F <sup>4</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	Acceptable?	Rating
<b>pH Meter</b>			
• 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Log book maintained <sup>9</sup>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
• Minimum of 2 point calibration	• Calibration per manufacturer specification and calibration buffers must bracket anticipated result <sup>7</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
• Slope Documentation/ Acceptability	• Slope acceptable range indicated on benchsheet <sup>2</sup>	<input type="checkbox"/> Yes <input checked="" 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 type="checkbox"/> Yes <input type="checkbox"/> No	
	• Teflon covered magnetic stirrer or equivalent for mixing <sup>8</sup>	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Comments:			

## General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Dissolved Oxygen Meter</b>				<b>A</b>
• Calibration Method	• Air or known DO calibration method <sup>10</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Calibration per manufacturer specification <sup>10</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Calibration Frequency/ Documentation	• Logbook maintained <sup>9</sup>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
	• Calibration verification required at least once each day the meter is used. <sup>3</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Small to no bubble present under membrane (must be smaller than the lead in number 2 pencil) <sup>11</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Instrument manual available	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments: Operator performs calibration procedure of user manual. YSI Model 50B (D.O./Temp.)				

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Incubator (CBOD/E-Coli)</b>				<b>N/A</b>
• Temperature Recordkeeping	• Temperature checked/recorded twice daily for each shelf in use <sup>1</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Temperature checked/recorded daily <sup>2</sup> (CBOD)	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Acceptable temperature range (CBOD) is 20°C ±1.0° <sup>12</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Acceptable temperature range (E-Coli) is 35°C ±0.5° <sup>22</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Logbook maintained <sup>9</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Temperature Calibration/ Documentation	• Thermometer calibrated annually with NIST traceable thermometer <sup>1,2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Temperature correction information posted on incubator <sup>1</sup>	<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) <sup>23</sup>	<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) <sup>5</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:				

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Refrigerator</b>				
• Temperature Recordkeeping	• Temperature Log (thermometer reads to 0.1 Celsius) <sup>5</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Temperature Calibration/ Documentation	• Thermometer calibrated annually with NIST traceable thermometer <sup>1,2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• Thermometer held in water bath <sup>1</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Refrigerator temperature ≤6° Celsius <sup>13</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Do not store volatile solvents, food, or beverages <sup>14</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:				

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Chlorine Meter</b>				<b>N/A</b>
• 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	<input type="checkbox"/> Yes	<input type="checkbox"/> No	

## General Lab Criteria

	or calibration per manufacturer specification <sup>16</sup>			
	• 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>9</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		Acceptable?		Rating
<b>Ammonia Meter</b>					
• 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	<b>N/A</b>	
		• Log book being maintained <sup>9</sup>	<input type="checkbox"/> Yes		
• 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:					

Criteria	Standard Methods Requirement		Acceptable?		Rating
<b>Sample Collection/Handling</b>					
• Sample Labeling	• Samples container labeled (description, date, time, preservative added, initialed) <sup>19</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<b>N/A</b>	
• Chain of Custody	• Chain of custody (description, date, time, signature) <sup>19</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
• Other	• Composite samples refrigerated during sample collection <sup>14</sup>	<input 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		
	• Log book being maintained <sup>9</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
Comments:					

Criteria	Standard Methods Requirement		Acceptable?		Rating
<b>Desiccator</b>					
• General Criteria	• Properly working seals	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<b>N/A</b>	
		• Desiccant fresh (blue color)	<input type="checkbox"/> Yes		
• Documentation	• Log book being maintained <sup>9</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No		
Comments:					

## General Lab Criteria

Criteria	Standard Methods Requirement		Acceptable?		Rating
<b>Bench Sheets</b>					
<ul style="list-style-type: none"> <li>• General Criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Date(s)<sup>2</sup></li> </ul>		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<b>A</b>
	<ul style="list-style-type: none"> <li>• Analyst initials<sup>2</sup></li> </ul>		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Blue or black ink pen<sup>2</sup></li> </ul>		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Calibration information<sup>2</sup></li> </ul>		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Equations, calculations, units for all measurements, notations, and results present<sup>2</sup></li> </ul>		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Corrections, single line through, initialed and dated<sup>2</sup></li> </ul>		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:					

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 reads 0.2° C)<sup>21</sup></li> </ul>		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<b>N/A</b>
		<ul style="list-style-type: none"> <li>• Incubator temperature 44.5° C ±0.2°<sup>21/24</sup></li> </ul>		<input type="checkbox"/> Yes	
<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>9</sup></li> </ul>		<input type="checkbox"/> Yes	
<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	<b>N/A</b>
		<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	
<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>9</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>			
<ul style="list-style-type: none"> <li>• General Criteria</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 checked="" type="checkbox"/> No	<b>M</b>
	<ul style="list-style-type: none"> <li>• Thermometer reads in increments of at least 0.1°C<sup>5</sup></li> </ul>	<input checked="" 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 checked="" type="checkbox"/> No	
Comments: Use YSI Model 50B (temp., D.O.) meter			

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

**Acceptable Ratings** – No action required (recommend SOP's written or updated, perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, written response not required).

**Marginal Ratings** – Improvements required, written response required (recommend SOP's be written or updated, recommend they perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, require deficiencies to be addressed in written response).

**Unsatisfactory Rating** – Improvements required, written response required, NOV issued (recommend SOP's be written or updated, recommend they perform DMRQA's for all onsite analysis, recommend voluntary lab analyst certification, require deficiencies to be addressed in written response to NOV).

Consider recommending PAI Audit from DES when:

- >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 $\text{H}_2\text{SO}_4$ to pH <2, Refrigerate $\leq 6^{\circ}\text{C}$	7 d	28 d
TRC	P, G	500	G	Analyze immediately	0.25h	0.25 h
DO (electrode)	G, BOD Bottle	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 $\text{HNO}_3$ 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 $\text{H}_2\text{SO}_4$ 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