



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

February 26, 2013

Mayor and Council  
Village of Mt. Orab  
P.O. Box 466  
Mt. Orab, Ohio 45154

**RE: Village of Mt. Orab WWTW/ Compliance Evaluation Inspection, NPDES Permit No. OH0026646/ OEPA Permit No. 1PB00044\*CD and Notice of Violation**

Dear Ladies and Gentlemen:

On January 29, 2013, I conducted an NPDES Compliance Evaluation Inspection at the village of Mt. Orab Wastewater Treatment Works. Eric Stephan, Operator of Record, was present for the facility. The purpose of the inspection was to evaluate compliance with the terms and conditions of the Facility's NPDES permit.

The *Permits* section of the evaluation received a "Marginal" rating. The NPDES permit requires a renewal application for the NPDES permit to be submitted six months in advance of the expiration of the current permit. The current Mt. Orab permit expires on March 31, 2013. The renewal permit was not submitted to Ohio EPA until January 2013.

A detailed inspection of the lab facilities at Mt. Orab was performed. Three areas received a "Marginal" rating, with areas needing correction. This leads to an overall rating of "Marginal" for the *Laboratory* evaluation. Please see the attached detailed lab inspection for areas in need of improvement.

The *Effluent/Receiving Waters* section of the evaluation received an "Unsatisfactory" rating as 52 limit violations have been reported since the last inspection in April 2010. Please see information regarding these violations at the end of this report.

All other areas evaluated received "Satisfactory" ratings. See the attached report for more information. **Please pay attention to the "Items Requiring Correction" (shown in bold type) within the report.**

One of the reasons listed for numerous TSS violations experienced by Mt. Orab is excessive rainfall. Infiltration and Inflow (I&I) has been an identified issue at Mt. Orab. In 2009 an I&I Analysis was performed by the Village and some repairs were made to

In 2009 an I&I Analysis was performed by the Village and some repairs were made to laterals that were identified during smoke testing. No other work has been performed on the I&I issue since. In 2013 Mt. Orab applied for a WPCLF loan to perform the following work as listed in the application:

“The project involves the relining of damaged or worn out piping located within existing 40 year old 8-inch sanitary sewer system, sealing existing manholes and manhole castings in the original village of Mt Orab Sewer System, and the replacement of the High Meadows Drive lift station. The proposed project will allow the Village to address excessive infiltration and inflow in the older section of their collection system in the vicinity of East Main Street and Home Street. The project includes the following:

- Televising 6,600 LF of sewer lines along East Main Street
- Relining approximately 6,600 LF of sanitary sewers along East Main Street
- Repairing 23 manholes
- Reinstalling 152 service laterals
- Testing and re-televising 6,600 LF of sanitary sewer line along East Main Street
- Removing and replacing the High Meadow Drive lift station”.

In addition to I&I work that needs to be completed, TSS violations have been attributed by the Village to solids loss from the east clarifier, due to the east clarifier telescopic valve becoming plugged. Clogging in the system can be directly attributed to the lack of screening ability of the plant. Currently, Mt. Orab only has a bar screen as part of its headworks, with no fine screen component. Floating plastic and debris were noted in the oxidation ditches during the inspection, having made it past the headworks.

As was discussed during the inspection, due to the numerous and lengthy history of limit violations at the Mt. Orab WWTW, the Village is considered to be in Significant Non-Compliance with the NPDES permit. Please be advised that failure to comply with the effluent limitations or to satisfy the monitoring or reporting requirements of your NPDES Permit may be cause for enforcement action pursuant to the Ohio Revised Code Chapter 6111.

Ohio EPA expects the following timeline to be met for the above mentioned projects to help bring the Mt. Orab WWTW into compliance:

1. All I&I work is to be completed by October 31, 2013. When work is completed, submit a report to Ohio EPA detailing the I&I project.
2. Submit a PTI for headworks improvement by October 31, 2013.
3. Start construction on the headworks improvements by July 1, 2014.

A copy of the inspection report is enclosed.

**Mayor and Council  
Village of Mt. Orab  
February 26, 2013  
Page 3**

If you have any questions, please contact me by phone at (937) 285-6028 or by email at [michelle.waller@epa.state.oh.us](mailto:michelle.waller@epa.state.oh.us).

Respectfully,



Michelle Waller  
Environmental Specialist II  
Division of Surface Water

MW/kb

Enclosures

cc: Eric Stephans, Village of Mt. Orab  
John Van Harlingen, The H2O Company



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
1PB00044*CD	OH0026646	1/29/2013	C	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	Entry Time	Permit Effective Date
Village of Mt. Orab WWTW 12943 US 68 Mt. Orab, Brown County	10:25AM	4/1/2008
	Exit Time	Permit Expiration Date
	12:41PM	3/31/2013
Name(s) and Title(s) of On-Site Representatives	Phone Number(s)	
Eric Stephan – Class III Operator, ORC	(937) 509-8082	
Name, Address and Title of Responsible Official	Phone Number	
Mayor and Council Village of Mt. Orab P.O. Box 466 Mt. Orab, Ohio 45154	(937) 444-4141	

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

Section D: Summary of Findings (Attach additional sheets if necessary)	
Please see attached report.	
Inspector	Reviewer
 Michelle Waller Division of Surface Water Southwest District Office	 Martyn Burt Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office
2/26/13 Date	2/26/13 Date

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

**Section E: Permit Verification**

Inspection observations verify the permit

- (a) Correct name and mailing address of permittee ..... Y
- (b) Flows and loadings conform with NPDES permit..... Y
- (c) Treatment processes are as described in permit application... Y
- (d) All discharges are permitted..... Y
- (e) Number and location of discharge points are as described  
in permit..... Y
- (f) Storm water discharges properly permitted..... Y

Comments/Status:

Permit renewal application not submitted until January 2013.

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

Comments/Status:

ORC noted that many of the TSS violations reported were due to the lack of a good headworks/bar screen at the front of the plant. Rags are clogging up the clarifier telescope, leading to a loss of solids.

**Section G: Operation & Maintenance**

**Treatment Works:**

Treatment facility properly operated and maintained

- (a) Standby power available.....generator  or dual feed ..... N
  - i. What does the back-up power source operate.....

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

[Empty box for answer]

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

Digester, RAS, bar screen, blowers on digester, clarifier drives, 2 lift stations alarmed with dialers, main lift has backup power – generator.

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

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

Maintenance calendar.

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

(f) Operation and maintenance manual provided and maintained..... Y

(g) Any plant bypasses since last inspection..... N

(h) Any plant upsets since last inspection..... N

Comments/Status:

[Empty box for comments/status]

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

**Record Keeping/Operator of Record:**

(a) Wastewater Treatment Works classification (OAC 3745-7)..... II

(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..... N/A

(g) Operator of Record log book provided..... Y

(h) Format of log book (e.g. computer log, hard bound book)

Operator of Record log book is a spiral bound calendar.

(i) Log book kept onsite (in an area protected from weather)..... Y

(j) Log book contains the following:

I. Identification of treatment works..... Y

II. Date/times of arrival/departure for Operator of Record and

- any other operator required by OAC 3745-7..... Y
- iii. Daily record of operator and maintenance activities  
(including preventative maintenance, repairs and request  
for repairs, process control test results, etc.)..... Y
- iv. Laboratory results (unless documented on bench sheets)... N
- v. Identification of person making entries..... Y
- (k) Has the Operator of Record submitted written notifications to the  
permittee, Ohio EPA and, if applicable, any local environmental  
agencies when a collection system overflow, treatment plant  
bypass or effluent limit violation has occurred..... Y

**Comments/Status:**

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

**Collection System:**

- (a) Are there pump stations in the collection system..... Y
    - i. How many publicly-owned pump stations equipped with  
permanent standby power or equivalent..... 1
    - ii. How many pump stations have telemetered alarms..... 2
    - iii. How many pump stations have operable alarms..... 12
  - (b) Any chronic collection system overflows since last inspection..... N
  - (c) Regulatory agency notified of all overflows..... N
  - (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..... N
  - (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:**

Mt. Orab is attempting to get a grant to start work lining the sewers this spring. In 2009, Mt. Orab performed an I&I Analysis, and lateral repairs were made as a result of smoke testing that was done.

**Section H: Sludge Management**

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

Digester holds 60,000 gallons. When sludge is pressed, the dumpster is hauled away.
- (d) Records kept in accordance with State and Federal law (5 years according to OAC 3745-40-06)..... Y
- (e) Any complaints received in last year regarding sludge..... N
- (f) 5/8" screen at headworks for facilities that land apply sludge..... N
- (g) Are sludge application sites inspected to verify compliance with NPDES permit..... N/E
- (h) Is a contractor used for sludge disposal..... Y  
If so, what is the name of the contractor.....

Rumpke

**Comments/Status:**

Sludge is pressed approximately 3 times/month. Although Mt. Orab has land application as one of their sludge disposal options in the NPDES permit, they have not land applied in more than a decade.

**Section I: Self-Monitoring Program**

**Flow Measurement:**

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

Weir with an ultrasonic.
- (b) Flow meter calibrated annually ..... Y  
(Date of last calibration: 4/12)
- (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:**

Flow was reading 0.641 at 11:41AM.

**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..... Y
- (b) Do SOP's include the following if applicable..... Y
  - Title
  - Scope and Application
  - Summary
  - Sample Handling and Preservation
  - Interferences
  - Apparatus and Materials
  - Reagents
  - Procedure
  - Calculations
  - Quality Control
  - Maintenance
  - Corrective Action
  - Reference (Parent Method)

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

- (c) EPA approved analytical testing procedures used (40 CFR 136.3).. 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) Commercial laboratory used..... Y  
Parameters analyzed by commercial lab: Metals, phosphorus, oil and grease, sampling which is done quarterly.

Lab name: MASI

**Comments/Status:**

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

Outfall # 001

Outfall Description: Outfall sign in place. Pipe outfall to receiving stream.

Receiving Stream: Snapping Turtle Run

Receiving Stream Description: Algae, a few solids were observed.

**Section K: Multimedia Observations**

- (a) Are there indications of sloppy housekeeping or poor maintenance in work and storage areas or laboratories..... N
- (b) Do you notice staining or discoloration of soils, pavement or floors.. N
- (c) Do you notice distressed (unhealthy, discolored, dead) vegetation.. N
- (d) Do you see unidentified dark smoke or dust clouds coming from sources other than smokestacks..... N
- (e) Do you notice any unusual odors or strong chemical smells..... N
- (f) Do you see any open or unmarked drums, unsecured liquids, or damaged containment facilities..... N

## Notice of Violation

1. 52 violations were reported from the period of April 2010 through the end of December 2013.

### Effluent Limit Violations

Reporting Period	Parameter	Limit Type	Limit	Reported Value	Violation Date
April 2010	Total Suspended Solids	7D Conc	18	24.5	4/1/2010
May 2010	Nitrogen, Ammonia (NH3)	7D Conc	1.5	1.665	5/8/2010
May 2010	Nitrogen, Ammonia (NH3)	7D Qty	3.98	5.75888	5/8/2010
August 2010	Nitrogen, Ammonia (NH3)	7D Conc	1.5	2.095	8/1/2010
March 2011	Total Suspended Solids	30D Qty	31.8	49.1827	3/1/2011
March 2011	CBOD 5 day	30D Qty	26.5	31.1283	3/1/2011
March 2011	Total Suspended Solids	7D Conc	18	28.5	3/8/2011
March 2011	Total Suspended Solids	7D Qty	47.7	173.903	3/8/2011
March 2011	CBOD 5 day	7D Conc	15	16.3	3/8/2011
March 2011	CBOD 5 day	7D Qty	39.8	90.0454	3/8/2011
March 2011	Total Suspended Solids	7D Conc	18	21.	3/15/2011
March 2011	Total Suspended Solids	7D Qty	47.7	53.2417	3/15/2011
March 2011	pH	1D Conc	6.5	6.26	3/23/2011
April 2011	Total Suspended Solids	30D Conc	12	25.	4/1/2011
April 2011	Total Suspended Solids	7D Conc	18	31.5	4/1/2011
April 2011	Total Suspended Solids	30D Qty	31.8	109.429	4/1/2011
April 2011	Total Suspended Solids	7D Qty	47.7	106.039	4/1/2011
April 2011	CBOD 5 day	30D Conc	10	12.65	4/1/2011
April 2011	CBOD 5 day	7D Conc	15	19.35	4/1/2011
April 2011	CBOD 5 day	30D Qty	26.5	55.1043	4/1/2011
April 2011	CBOD 5 day	7D Qty	39.8	65.4003	4/1/2011
April 2011	Total Suspended Solids	7D Conc	18	39.	4/8/2011
April 2011	Total Suspended Solids	7D Qty	47.7	150.447	4/8/2011
April 2011	CBOD 5 day	7D Qty	39.8	61.6397	4/8/2011
April 2011	Total Suspended Solids	7D Conc	18	29.5	4/15/2011
April 2011	Total Suspended Solids	7D Qty	47.7	181.231	4/15/2011
April 2011	CBOD 5 day	7D Qty	39.8	80.9091	4/15/2011
May 2011	Total Suspended Solids	7D Conc	18	20.	5/1/2011
May 2011	Total Suspended Solids	30D Qty	31.8	39.6374	5/1/2011
May 2011	Total Suspended Solids	7D Qty	47.7	94.9898	5/1/2011
May 2011	Total Suspended Solids	7D Qty	47.7	53.2104	5/22/2011
October 2011	Dissolved Oxygen	1D Conc	7.0	6.99	10/25/2011
November 2011	Total Suspended Solids	30D Conc	12	13.3	11/1/2011
November 2011	Total Suspended Solids	30D Qty	31.8	50.6607	11/1/2011
November 2011	Total Suspended Solids	7D Qty	47.7	61.7187	11/15/2011
November 2011	Total Suspended Solids	7D Conc	18	22.5	11/22/2011
November 2011	Total Suspended Solids	7D Qty	47.7	88.1460	11/22/2011
December 2011	Total Suspended Solids	30D Conc	12	13.875	12/1/2011
December 2011	Total Suspended Solids	7D Conc	18	21.5	12/1/2011
December 2011	Total Suspended Solids	30D Qty	31.8	43.2648	12/1/2011
December 2011	Total Suspended Solids	7D Qty	47.7	86.0898	12/1/2011

December 2011	CBOD 5 day	7D Qty	39.8	41.8932	12/1/2011
January 2012	Total Suspended Solids	30D Conc	12	13.5555	1/1/2012
January 2012	Total Suspended Solids	30D Qty	31.8	36.0166	1/1/2012
January 2012	Total Suspended Solids	7D Conc	18	23.5	1/15/2012
January 2012	Total Suspended Solids	7D Qty	47.7	72.1040	1/15/2012
January 2012	CBOD 5 day	7D Qty	39.8	46.8167	1/15/2012
March 2012	pH	1D Conc	6.5	6.25	3/1/2012
July 2012	Total Suspended Solids	30D Conc	12	13.4555	7/1/2012
October 2012	Total Suspended Solids	30D Conc	12	15.25	10/1/2012
November 2012	Total Suspended Solids	30D Conc	12	13.875	11/1/2012
November 2012	Total Suspended Solids	7D Conc	18	21.5	11/22/2012

Please be advised that failure to comply with the effluent limitations or to satisfy the monitoring or reporting requirements of your NPDES Permit may be cause for enforcement action pursuant to the Ohio Revised Code Chapter 6111.

We have reviewed your reports addressing the reasons for the above violations and the actions being taken to prevent further occurrences. No additional information is requested at this time. Future violations must continue to be reported as required by the NPDES Permit as detailed in Part III.12 titled "Noncompliance Notification."

2. Operator of Record Logbook - Currently the logbook that is being used by the Operator of Record is a spiral bound calendar. As stated in the OAC 3745-7-09, "*hard bound books with consecutive page numbering*, time cards, separate operation and maintenance records, or well organized computer logs". The spiral calendar currently being used does not meet this definition. **Begin using an Operator of Record logbook which meets the OAC definition.**

3. Lab Inspection – The following items were noted during the lab inspection and need to be corrected:

1. **Locate a manual for the balance used in the lab.**
2. **Maintain a logbook for the DO meter recording calibrations.**
3. **Prepare an SOP for cleaning of sampling equipment.**

# General Lab Criteria

Criteria	Standard Methods Requirement		Rating
<b>Balance</b>	Acceptable?		<b>M</b>
• Standard Weights	• Either NIST Class s or ASTM/ANSI Class 1 weights <sup>1,2</sup>	<input checked="" 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 checked="" 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
• Other	• Service and recalibrate annually (manufacturer representative or comparable) <sup>1</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Must be able to measure to 0.1 grams <sup>4</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Instrument manual available	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	• Log book maintained <sup>2</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Comments: Calibrated 8/12.  
Unable to located instrument manual.

Criteria	Standard Methods Requirement		Rating
<b>Drying Oven (Suspended Solids)</b>	Acceptable?		<b>A</b>
• Temperature Recordkeeping	• Temperature recorded with each use <sup>4</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Log book maintained <sup>2</sup>	<input checked="" 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
• Other	• Thermometer temperature accurate to 0.5° Celsius <sup>5</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Acceptable temperature range is 103° – 105° C <sup>4</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Instrument manual available	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Comments: Calibrated 8/12.



# General Lab Criteria

Criteria	Standard Methods Requirement		Rating
<b>Incubator (CBOD/ E-Coli)</b>		Acceptable?	
• Temperature Recordkeeping	• Temperature checked / recorded twice daily for each shelf in use <sup>1</sup> (E-Coli)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
	• Temperature checked / recorded daily <sup>2</sup> (CBOD)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
	• Acceptable temperature range (CBOD) is 20° C ±1.0 <sup>o 12</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
	• Acceptable temperature range (E-Coli) is 35° C ±0.5 <sup>o 22</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
	• Logbook maintained <sup>2</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer <sup>1, 2</sup>	<input checked="" 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 ml), or mfg's multi-well tray	• E-coli Ultraviolet lamp (365 nm wave length, 6 W bulb) <sup>23</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
• Other	• Instrument manual available	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
	• Temperature Log (thermometer accurate to 0.5 Celsius). <sup>1</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

A

Comments: No temperature correction necessary.

Criteria	Standard Methods Requirement		Rating
<b>Refrigerator</b>		Acceptable?	
• Temperature Recordkeeping	• Temperature Log (thermometer accurate to 0.5 Celsius). <sup>5</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer <sup>1, 2</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
• Other	• Thermometer held in water bath. <sup>1</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
	• Refrigerator temperature ≤6° Celsius. <sup>13</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
	• Do not store volatile solvents, food, or beverages. <sup>14</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

A

Comments:

# General Lab Criteria

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

Criteria	Standard Methods Requirement		Rating
Sample Collection/Handling	Acceptable?		
• Sample Labeling	• Samples container labeled (description, date, time, preservative added, initialed). <sup>19</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>M</b>
• 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	
	• SOP for cleaning of sampling equipment	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
	• Logbook being maintained <sup>2</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Comments: Prepare SOP for the cleaning of sampling equipment.			

# General Lab Criteria

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

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Bench sheets</b>				
• General criteria	• Date(s) <sup>2</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<b>A</b>
	• 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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:				

Criteria	Standard Methods Requirement	Acceptable?		Rating
<b>Hot Water Bath (Fecal Coliform/E. Coli)</b>				
• Temperature Recordkeeping	• Temperature Log (thermometer accurate to 0.2° C) <sup>21</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<b>A</b>
		• Incubator temperature 44.5° C ± 0.2° <sup>21/24</sup>		
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer <sup>1,2</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book being maintained <sup>2</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Water Level	• Thermometer total immersion or partial (line on thermometer to ID immersion depth) <sup>1,5</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments:				

# General Lab Criteria

<b>Number of Criteria Rated:</b>	<b>Acceptable</b>	<b>8</b>
	<b>Marginal</b>	<b>3</b>
	<b>Unacceptable</b>	<b>0</b>
<b>Total Number of Areas Rated</b>		<b>11</b>
<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>		
Consider recommending PAI Audit from DES when:	<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

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.

<b>Preservation and Holding Times</b>						
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

# General Lab Criteria

Metals, general	P, G	1000	G, C	For dissolved filter immediately and add HNO <sub>3</sub> to pH <2	6 months	6 months
Purgeables by purge and trap	G (PTFE lined lid)	40 (X2)	G	HCl to pH<2, Refrigerate ≤6° C	7 d	14 d
Base/Neutrals and acids	G (solvent rinsed or baked)	1000	C, G	Refrigerate ≤6° C	7 d	7 days until extraction 40 days after extraction
Pesticides	G (PTFE lined lid)	1000	C	Refrigerate ≤6° C	7 d	7 days until extraction 40 days after extraction
Fecal Coliform / E-Coli	G, P (Sterilized)	100	G	Refrigerate ≤10° 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 <sub>2</sub> SO <sub>4</sub> to pH <2, Refrigerate ≤6° 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