

10 years and moving forward

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

November 13, 2012

Mr. John Geller, Utilities Director  
Heath WWTP  
1287 Hebron Road  
Heath, OH 43056

**Re: Heath WWTP  
NPDES Permit 4PC00007/ OH0025763  
Compliance Evaluation Inspection  
Licking County**

Dear Mr. Geller:

On November 1, 2012, a Compliance Evaluation Inspection was conducted at the Heath WWTP. Present for the inspection were Dan Stofan and David Brenner representing the Village of Heath and myself of the Ohio EPA, Central District Office, Division of Surface Water.

The purpose of the inspection was to evaluate compliance with the terms and conditions of your NPDES permit and to evaluate the operation and maintenance of the plant. Please note the items discussed in the attached inspection report and general lab criteria form. There are a number of issues which must be addressed to ensure the facility remains in compliance.

If you have any questions or comments concerning the enclosed inspection report, please contact me at (614) 728-3854 or e-mail at [paul.vandermeer@epa.ohio.gov](mailto:paul.vandermeer@epa.ohio.gov).

Sincerely,

Paul L. Vandermeer  
Environmental Specialist  
Compliance and Enforcement Unit  
Division of Surface Water  
Central District Office

c: Dan Stofan, Heath WWTP

ec: Paul L. Vandermeer

PLV/nsm Heath

NPDES Compliance Inspection Report

SECTION A: NATIONAL DATA SYSTEM CODING

Permit #	NPDES #	Inspection Type	Inspector	Facility Type
4PC00007	OH0025763	CEI	S	1
Inspection Date	Entry Time	Exit Time	Notice of Violation	Significant Non-Compliance
11/1/2012	9:00 am	11:25 am	No	No

SECTION B: FACILITY DATA

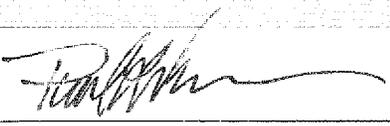
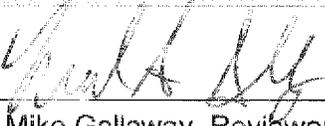
Name and Location of Facility Inspected	Permit Effective Date
Heath WWTP 719 Licking View Dr. Heath, OH	8/1/2011
	Permit Expiration Date
	7/31/2016
Name(s) and Title(s) of On-Site Representatives	Phone Numbers
Dan Stefan, Operator	(740) 403-0546
Name and Title of Responsible Official	Phone Number
John Geller, Utilities Director	(740) 522-1677

SECTION C: AREAS EVALUATED DURING INSPECTION

Key: S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated

S	NPDES Compliance	Mercury and phthalate violations due entirely to contractor or laboratory errors.
S	Operations & Maintenance	Continue work to reduce I&I
S	Facility Site Review	
S	Collection System	Scheduled maintenance and upgrades ongoing.
S	Flow Measurement	
S	Receiving Waters	
M	Laboratory	See attached General Lab Criteria form for details.

Comments:

Signatures			
	11/5/12		11/5/12
Paul L. Vandermeer, Inspector Compliance & Enforcement Division of Surface Water Central District Office	Date	Mike Gallaway, Reviewer Section Manager Division of Surface Water Central District Office	Date

## Compliance Data for Heath WWTP between 12/1/2011 to 10/1/2012

### Summary

Permit Effluent Limit Violations: 2  
 Permit Effluent Code Violations: 0  
 Permit Effluent Frequency Violations: 0  
 Compliance Schedule Violations: 0

Limit Violations						
Reporting Period	Standard	Parameter	Limit Type	Limit	Reported Value	Violation Date
February 2012	001	Manganese (Low L)	30D Conc	0.1	51.6	2/1/2012
September 2012	001	Bis(2 ethylhexyl) Phth	30D Conc	13	19.2	9/1/2012

### Flow Data for Heath WWTP between 12/1/2011 and 10/1/2012

	Date	Flows (MGD)
<b>Ten Highest Flows</b>	3/15/2012	3.840
	1/27/2012	3.770
	12/5/2011	3.540
	12/7/2011	3.480
	1/26/2012	3.320
	12/22/2011	3.100
	3/16/2012	3.080
	1/28/2012	2.830
	12/23/2011	2.800
	12/21/2011	2.780
<b>Average Flow Rate</b>		1.391

### SECTION D: PERMIT VERIFICATION

- (a) Correct name and mailing address of permittee ..... Y
- (b) Correct name and location of receiving waters ..... Y
- (c) Products and production rates conform with permit application ..... Y
- (d) Flows and loadings conform with NPDES permit..... Y
- (e) Treatment processes are as described in permit application ..... Y
- (f) New treatment process added since last inspection ..... N
- (g) Notification given to State of new, different or increased discharges ..... NA
- (h) All discharges are permitted..... Y
- (i) Number and location of discharge points are as described in permit..... Y

Comments:

**SECTION E: COMPLIANCE**

- (a) Any significant violations since the last inspection ..... N
- (b) Permittee is taking actions to resolve violations ..... NA
- (c) Permittee has a compliance schedule ..... Y
- (d) Permittee is meeting compliance schedule ..... Y\*

Comments: *The city has been given a reprieve on meeting the mercury pollutant minimization program in the compliance schedule since mercury has not been detected in the effluent for many months. According to the City, the mercury detections from past years are also suspect due to significant irregularities in sample chain-of-custody and sample handling by American Analytical. These are currently under investigation by the Ohio EPA, Division of Environmental Services.*

**SECTION F: OPERATION AND MAINTENANCE**

- (a) Standby power available ..... Y  
If yes, what type? *Diesel*
- (b) Adequate alarm system available for power or equipment failures ..... Y
- (c) All treatment units in service other than backup units ..... N\*
- (d) Wastewater Treatment Works classification ..... III
- (e) Operator of Record holds unexpired license of class required by Permit.. Y  
Class held: III
- (f) Copy of certificate of Operator of Record displayed on-site ..... Y
- (g) Minimum operator staffing requirements fulfilled ..... Y
- (h) Routine and preventative maintenance scheduled and performed ..... Y^
- (i) Any major equipment breakdown since last inspection ..... N
- (j) Operation and maintenance manual provided and maintained ..... Y
- (k) Any plant bypasses since last inspection ..... N
- (l) Regulatory agency notified of bypasses ..... NA  
By MOR  and/or Spill Hotline (1-800-282-9378)
- (m) Any hydraulic or organic overloads since last inspection ..... N\*\*

Comments: *\*Tertiary filters have not been used for many years. This does not affect effluent quality. ^Maintenance is performed on a monthly schedule and posted on a chart for tracking purposes. \*\*Inflow and infiltration are significant, although the WWTP is able to treat the wastes it receives, even in wet weather.*

**SECTION G: RECORD KEEPING**

- a) Log book provided ..... Y
- b) Format of log book ..... book
- c) Log book(s) kept onsite in an area protected from weather ..... Y
- d) 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 operation and maintenance activities (including preventative maintenance, repairs and request for repairs) ..... Y
- iv) Laboratory results (unless documented on bench tickets) ..... bench
- v) Identification of person making log entries ..... Y
- e) Has the Operator of Record submitted written notification to the permittee, Ohio EPA and any applicable local environmental agencies when a collection system overflow, treatment plant bypass or effluent limit violation has occurred? ... Y

Comments:

**SECTION H: COLLECTION SYSTEM**

- a) Percent combined system: ..... 0%
- b) Any collection system overflows since last inspection ..... N\*  
     CSO    SSO
- c) Regulatory agency notified of overflows ..... NA
- d) CSO O&M plan provided and implemented ..... NA
- e) CSOs monitored and reported in accordance with permit ..... NA
- f) Portable pumps are used to relieve system ..... N
- g) Lift station alarms provided and maintained ..... Y
- h) Lift stations equipped with permanent standby power or equivalent ..... Y^
- i) Is there an inflow/infiltration problem (separate sewer system), or were there any major repairs to collection system since last inspection ..... N\*\*
- j) Any complaints received since last inspection of basement flooding ..... Y\*
- k) Are any portions of the sewer system at or near capacity ..... N
- l) Are operations changed during high-flow events? ..... N

Comments: *\*Overflows have been insignificant and have not reached waters of the state and are generally confined to a structure or basement. They are typically caused by clogging due to grease or debris. The City operates a FOG program to help minimize the discharge of grease to the collection system. ^There are 21 lift stations in the collection system, 17 of which have permanent standby power. Two lift stations are slated for elimination and conversion to gravity sewers sometime in the next 12-18 months. A PTI will be forthcoming for this work. \*\*Inflow and infiltration is significant, although the City is proactive in work to maintain the sewers, additional efforts to reduce I&I may be necessary. Continued monitoring of SCADA data from pump stations has allowed the City to evaluate areas of the collection system which may require work to reduce I&I. This information should be collected, evaluated, and placed into a plan of action to allow the City to adequately budget time and resources for future collection system improvements and I&I reduction efforts.*

**SECTION I: SLUDGE MANAGEMENT**

- a) Sludge adequately disposed..... Y  
Method: *Land application*
- b) If sludge is incinerated, where is ash disposed of..... NA
- c) Is sludge disposal contracted..... Y  
Name: *Burch Hydro*
- d) Has amount of sludge generated changed significantly..... N
- e) Adequate sludge storage provided at plant..... Y
- f) Records kept in accordance with State and Federal law ..... \*\*
- g) Any complaints received last year regarding sludge..... N
- h) Is sludge adequately processed (digestion, pathogen control)..... Y

Comments: *\*\*City shall provide scanned copies of the manifests for the last 2 sludge disposal events to Paul Vandermeer via e-mail, by November 30, 2012.*

**SECTION J: SELF-MONITORING PROGRAM**

- a) Primary flow measuring device operated and maintained..... Y  
Type of device: *Ultrasonic* Device location: *Effluent channel*
- b) Calibration frequency adequate..... Y  
Date of last calibration: *April 25, 2012*
- c) Secondary instruments operated and maintained..... NA
- d) Flow measurements equipment adequate to handle full range of flows.... Y
- e) Actual flow discharged is measured..... Y
- f) Flow measuring equipment inspection frequency ..... Daily
- g) Sampling location(s) are as specified by permit..... Y
- h) Parameters and sampling frequency agree with permit..... Y
- i) 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:

**SECTION K: Laboratory**

- a) EPA applicable analytical testing procedures used (40 CFR 136.3)..... Y
- b) If alternate procedures are used, are they properly approved? ..... NA
- c) Analysis performed more frequently ..... Y  
If yes, are results recorded in permittee's report? ..... Y
- d) Commercial laboratory used:  
Name: *Alloway*  
Parameters analyzed: *metals, organics, biomonitoring*
- e) Quality assurance manual provided and maintained ..... Y
- f) Calibration and maintenance of instruments is satisfactory? ..... Y

Comments: *See attached General Lab Criteria form for additional information.*

**SECTION 4 - EFFLUENT/RECEIVING WATER OBSERVATIONS**

Outfall Number	Outfall sign in place	Oil Sheen	Oil Residue	Turbidity	Foam	Solids	Color	Other
001	No*	None	None	None	None	None	Clear	

*Comments: Prior to the beginning of the next recreation season the City shall install a sign at the top of the river bank overlooking the effluent pipe. This location will keep the sign out of the flood prone area. However, the City shall ensure that brush and trees are cleared and that the size of the sign and lettering are large enough to be readable from the edge of the South Fork Licking River since the sign will be some distance from the river. The City shall provide photographic evidence for installation of the sign to Paul Vandermeer via e-mail prior to May 1, 2012.*

## General Lab Criteria

Criteria	Standard Methods Requirement		Acceptable?	Rating
<b>Balance</b>				
• Standard Weights	• Either NIST Class 1 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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Log book maintained <sup>2</sup>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Comments: : * MAKE SURE BUBBLE LEVEL IS CENTERED FOR EACH BALANCE LOG BOOK NEEDED!				
Criteria	Standard Methods Requirement		Acceptable?	Rating
<b>Drying Oven (Suspended Solids)</b>				
• Temperature Recordkeeping	• Temperature recorded with each use <sup>4</sup>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
	• Log book maintained <sup>2</sup>	<input type="checkbox"/> Yes	<input checked="" 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: : TDS OVEN HAS SIMILAR ISSUES LOG BOOKS NEEDED!				

# General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?		Rating
<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>7</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 type="checkbox"/> Yes	<input checked="" 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 bench sheet<sup>7</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: : <b>LOGBOOK NEEDED!</b> <b>RECORD SLOPE RANGE ON BENCH SHEET.</b>				
Criteria	Standard Methods Requirement	Acceptable?		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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	<ul style="list-style-type: none"> <li>• Calibration per manufacturer specification<sup>10</sup></li> </ul>	<input checked="" 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 checked="" 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 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>• 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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Comments: <b>* OPTICAL D.O. SENSOR.</b>				

# General Lab Criteria

Criteria	Standard Methods Requirement	Acceptable?		Rating
Incubator (E-Coli)				
• Temperature Recordkeeping	• Temperature checked / recorded twice daily for each shelf in use (E-Coli) <sup>#</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Temperature checked / recorded daily (CBOD)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
	• Acceptable temperature range (CBOD) is 20° C ±1.0° <sup>12</sup>	<input checked="" 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	<input type="checkbox"/> Yes	<input checked="" 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>3</sup>	<input type="checkbox"/> Yes	<input checked="" 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 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	
Comments: : <b>LOGBOOK NEEDED!</b>				
* NOT APPLICABLE ** NOT EVALUATED.				
Criteria	Standard Methods Requirement	Acceptable?		Rating
Refrigerator				
• 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	
	• Thermometer held in water bath. <sup>1</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Other	• 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	
Comments:				

# General Lab Criteria

Criteria	Standard Methods Requirement		Rating
<i>Ammonia Meter</i>			
• Calibration Frequency / Documentation	• pH / millivolt meter read to 0.1 mV <sup>2</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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
	• Standards used for calibration not expired	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
• Slope Documentation / Acceptability	• Calibration curve (acceptable slope)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
• Other	• Electrode free of deposits and foreign material	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
	• Log book being maintained. <sup>2</sup>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
	• Instrument manual available	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Comments: : * NOT APPLICABLE LOG BOOK NEEDED! RECORD SLOPE.			
<i>Ammonia Meter</i>			
<i>Ammonia Meter</i>			
• 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: : SECTION NOT APPLICABLE			

# General Lab Criteria

Criteria	Standard Method Requirement	Acceptable?		Rating
Sample Collection/Preparation				
• Sample Labeling	• Samples container labeled (description, date, time, preservative added, initialed) <sup>13</sup>	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
• Chain of Custody	• Chain of custody (description, date, time, signature) <sup>12</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 blank utilized <sup>14</sup>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
	• SOP for cleaning of sampling equipment	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
	• Logbook being maintained <sup>1</sup>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

Comments:

\* SAMPLES TAKEN DIRECTLY FOR ANALYSIS, SAMPLER IS ANALYST.

EQUIPMENT BLANKS REQUIRED

LOGBOOK REQUIRED!

SOP NEEDED FOR CLEANING EQUIPMENT SAMPLING

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

Comments:

SEAL NEEDS ATTENTION  
LOGBOOK NEEDED!

Criteria	Standard Methods Requirement	Acceptable?		Rating
Bench sheets				
• 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 type="checkbox"/> No	

Comments:

\* NO CORRECTIONS NOTED

# General Lab Criteria

Criteria	Standard Method Requirement	Rating	
• Temperature recordkeeping	• Temperature Log (thermometer set at 40.0 ± 0.2°C) <sup>1</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	• Incubator temperature 34.5°C ± 0.2°C <sup>21/24</sup>		
• Temperature Calibration / Documentation	• Thermometer calibrated annually with NIST traceable thermometer <sup>1,2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	• Log book being maintained <sup>2</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
• Water Level	• Thermometer total immersion or partial (line on thermometer to ID immersion depth) <sup>1,3</sup>	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Comments: <b>NOT EVALUATED, RECREATION SEASON ENDED 10/31/12</b>			

Criteria	Standard Method Requirement	Rating	
<b>Autoclaves/Steam Sterilizers</b>			
• All apparatus utilized is adequately sterilized before use	• Sterilizing temperature 121°C <sup>20</sup> *	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	• 10 to 30 minutes time based on material being sterilized <sup>26</sup> †	<input type="checkbox"/> Yes	<input type="checkbox"/> No
• Documentation	• Verify the autoclave temperature weekly by using a maximum registering thermometer (MRT) to confirm that 121°C has been reached as measured in the exhaust. <sup>1</sup> *	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	• Date, contents, sterilization time and temperature, total time in autoclave, and analyst's initials should be recorded each time the autoclave is used <sup>1</sup> *	<input 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
	• Log book being maintained <sup>2</sup>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
• Performance Checks	• Test monthly for efficacy using a biological such as commercially available <i>Geobacillus stearothermophilus</i> in spore strips, suspensions, or capsules <sup>1</sup>	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Comments: <b>* NOT EVALUATED, RECREATION SEASON ENDED 10/31/12</b>  <b>LOG BOOK REQUIRED</b> <b>† BEGIN USING MONTHLY TESTS.</b>			

# General Lab Criteria

Criteria	Standard Methods Requirement		Rating
• General Criteria	• Thermometer calibrated annually with NIST traceable thermometer <sup>1</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Thermometer scaled to 0.1 Celsius and accurate to 0.5° C <sup>5</sup>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
	• Log book being maintained <sup>2</sup>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Comments: LOG BOOK REQUIRED.			
<b>Number of Criteria Rated:</b>			<input type="checkbox"/> Acceptable <input type="checkbox"/> Marginal <input type="checkbox"/> Unacceptable
			Total Number of Areas Rated
<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).			
<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).			
<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).			
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	

### 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.

<b>Preservation and Holding Times</b>						
Parameter	Container	Min. Sample Size (ml)	Sample type	Preservation	Maximum Storage Time	
					Recommended	Regulatory
BCD / BOD	P, G	1000	G, C	Refrigerate $\leq 6^{\circ}\text{C}$	6h	6h
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
NH <sub>3</sub> -N	P, G	500	G, C	Analyze as soon as possible or add H <sub>2</sub> SO <sub>4</sub> 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	500	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 <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 $\leq 6^{\circ}\text{C}$	7 d	14 d
Base/Neutrals and acids	G (solvent rinsed or baked)	1000	C, G	Refrigerate $\leq 6^{\circ}\text{C}$	7 d	7 days until extraction 40 days after extraction
Pesticides	G (PTFE lined lid)	1000	C	Refrigerate $\leq 6^{\circ}\text{C}$	7 d	7 days until extraction 40 days after extraction
Fecal Coliform / E-Coli	G, P (Sterilized)	100	G	Refrigerate $\leq 10^{\circ}\text{C}$ If chlorine present, add sodium thiosulfate tablet	6 hrs transport Start analysis within 2 hrs of receipt in lab.	
Oil and Grease	G	1000	G	HCl or H <sub>2</sub> SO <sub>4</sub> to pH <2, Refrigerate $\leq 6^{\circ}\text{C}$	28 d	28 d

<b>Approved Standard Methods</b>	
CBOD / BOD 5 Day	Std Methods 5210-B
Ammonia, Selective Electrode Method	Std Methods 4500-NH <sub>3</sub> 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