



Environmental
Protection Agency

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

Mike Z.
File copy

July 29, 2011

Mr. Chris Brausch
Warren County Sanitary Engineer
Warren County Water and Sewer Department
406 Justice Drive, P.O. Box 530
Lebanon, Ohio 45136

**Re: Warren County Lower Little Miami WWTP
NPDES Permit No. 1PK00018*JD; OH0071692
NPDES Compliance Inspection and Notice of Violation**

Dear Mr. Brausch:

On June 14, 2011, Michelle Waller and I conducted a National Pollutant Discharge Elimination System (NPDES) permit compliance inspection at the above referenced facility. Dave Walling, Deputy Sanitary Engineer, Carl Gatton, Operations Superintendent, Greg Squire, Wastewater Chief Operator, and Jon Collins, Lab Supervisor, were present and represented the County during the inspection. The purpose of the inspection was to evaluate several aspects of plant operation and performance, and to assess compliance with the facility's National Pollutant Discharge Elimination System (NPDES) permit.

Observations and findings of the inspection are included in the attached report. All compliance parameters except 'Effluent/Receiving Waters' received satisfactory ratings (refer to Section C of the report). The conditions of the final effluent and the unnamed tributary downstream from the final outfall observed during the inspection were acceptable (i.e. no significant solids in the discharge). However, final effluent limitation violations and plant upsets, occurring over the past 12 months, resulted in the marginal rating. The County previously provided written explanatory information for these violations. No additional information is required at this time.

As you are probably aware, the renewed NPDES permit will become effective on August 1, 2011. Finally, we are looking forward to the completion of the Phase III Plant Improvements, expected to occur next spring, 2012.

Page 2 – Warren Co. Lower Little Miami WWTP inspection report

If you have any questions, don't hesitate to contact me at (937) 285-6102.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael W. Zimmerman". The signature is fluid and cursive, with a long horizontal stroke at the end.

Michael W. Zimmerman
Division of Surface Water

Enclosure

Copy: Carl Gatton, Warren Co. Water and Sewer Department, w/ enclosure
Greg Squire, Warren Co. Water and Sewer Department, w/ enclosure



State of Ohio Environmental Protection Agency
Southwest District Office

NPDES Compliance Inspection Report

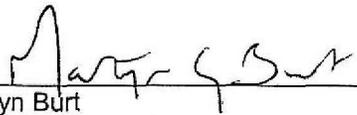
Section A: National Data System Coding					
Permit #	NPDES#	Month/Day/Year	Inspection Type	Inspector	Facility Type
1PK00018*ID	OH0071692	6/14/2011	C	S	1

Section B: Facility Data			
Name and Location of Facility Inspected		Entry Time	Permit Effective Date
Warren County Lower Little Miami WWTP 2086 West U.S. Route 22 & 3 Maineville, Ohio 45039		10:00 AM	
		Exit Time	Permit Expiration Date
Mailing: P.O. Box 530, 406 Justice Drive Lebanon 45036		12:30 PM	
Name(s) and Title(s) of On-Site Representatives		Phone Number(s)	
Dave Walling, Deputy Sanitary Engineer		(513)925-1643	
Carl Gatton, Operations Superintendent		same	
Greg Squire, Wastewater Chief Operator		(513)683-5808	
Jon Collins, Lab Supervisor		(513)583-3091	
Name, Address and Title of Responsible Official		Phone Number	
Chris Brausch, P.E., Sanitary Engineer		(513)695-1377	

Section C: Areas Evaluated During Inspection					
(S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated)					
S	Permit	S	Flow Measurement	N	Pretreatment
S	Records/Reports	S	Laboratory	S	Compliance Schedule
S	Operations & Maintenance	M	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)

Refer to attached report.

Inspector	Reviewer
 Michael W. Zimmerman Division of Surface Water Southwest District Office	 Martyn Burt Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office
7-29-2011 Date	7/29/11 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... N
- (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:

WWTP ADF is 12.0 MGD; the headworks hydraulic capacity is 56 MGD; peak capacity of the plant is 48 MGD

Item (c): two new clarifiers are on-line

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

Comments/Status:

Chem-Scan – 8 automatic sampling points that measure every two hours

Construction on plant improvements are scheduled to be completed in the spring, 2012. This includes rehabbing the old VLR's.

Refer to attached table for final effluent violations.

Section G: Operation & Maintenance

Treatment Works:

Treatment facility properly operated and maintained

- (a) Standby power available.....generator or dual feed Y
- i. What does the back-up power source operate.....
- Currently, the clarifiers.
With a portable generator, they could also operate primary treatment, but couldn't run the blowers.*
- ii. How often is the generator tested under load.....
- Monthly*
- (b) Which components have an alarm system available for power or equipment failures.....
- All components. They will have significantly improved power back-up with the new 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.) **Software** Y
- (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..... Y

Comments/Status:

Item (c) – the teacup degritter is not in service

Currently, there are two VLR units with four passes (channels) in each unit; each channel has two rotors. The first two channels in each unit are not being aerated, just mixed. Filamentous foam was observed in the first third area of channels 1 and 2.

Three clarifiers were in operation, two new (110' each) and one older (80'). Surface scum was observed inside the baffle ring, apparently caused by filamentous bacteria breaking up; the scum is contained within the ring; wastewater flow over the weirs was clear with very slight floating solids. The algae 'sweeps' were working well.

Section G: Operation & Maintenance con't

Record Keeping/Operator of Record:

- (a) Wastewater Treatment Works classification (OAC 3745-7)**Class IV** Y
- (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)

Hard bound with numbered pages
- (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)... Y
 - 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:

They will have a new SCADA system operating at the end of Phase I (October or November).

Greg Squire is a Class IV operator. There are two Class I operators at the plant. Carl Gatton and Dave Walling have their Class III licenses and could temporarily fill-in for Greg Squire.

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

Comments/Status:

Item (a). There are approximately 50 pump stations in the system. The critical pump stations have backup power (generators). All pump stations are or will be alarmed.

Item (h). They average two WIB complaints each year.

Collection system contact is Mike Carter (513) 509-1674

Section H: Sludge Management

- (a) Method of Sludge Disposal... Land Application
 Haul to Another NPDES Permittee
 Haul to a Mixed Solid Waste Landfill

*if one of the selected methods is land application, complete applicable charts.

Class A - Exception Quality Sewage Sludge (monitoring station 584)

Pathogen Reduction Alternative	84370 Vector Attraction Reduction Options							
	Option 1 -38% Volatile Solids Reduction	Option 2 -Anaerobic Bench Scale Analysis	Option 3 - Aerobic Bench Scale Analysis	Option 4 - Specific Oxygen Uptake Rate	Option 5 - Aerobic Time and Temperature	Option 6 - Alkali Addition	Option 7 - >75% Percent Solids without Unstabilized Solids	Option 8 - >75% Percent Solids with Unstabilized Solids
Alternative 1 – Time and Temperature Regime (84369)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 2 – High pH and High Temperature (84369)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 3 – Other Processes (84369)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 4 – Unknown Processes (84369)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 – Composting (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 – Heat Drying (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 – Heat Treatment (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 – Thermophilic Aerobic Digestion (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 – Beta Ray Irradiation (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 – Gamma ray Irradiation (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 5 – Pasteurization (84397)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Alternative 6 - Approved Equivalent Process	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Class B Sewage Sludge (monitoring station 581)

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

- (b) Has amount of sludge generated changed significantly since the last inspection..... N
- (c) How much sludge storage is provided at the plant.....

850,000 gallons (allows some freeboard)
- (d) Records kept in accordance with State and Federal law (5 years according to OAC 3745-40-06)..... Y
- (e) Any complaints received in last year regarding sludge..... Y
- (f) 5/8" screen at headworks for facilities that land apply sludge..... N/A
- (g) Are sludge application sites inspected to verify compliance with NPDES permit..... N/A

Comments/Status:

Item (a). Sludge is hauled to the Rumpke landfill on Colerain Road. Two belt filter presses, one operated at a time for approx.. 16 hrs/day. Pressed sludge is 15-16% solids. Odor complaints apparently only occur when the plant loses power and they can't aerate the digesters. They received one odor complaint in early May when they lost power.

Section I: Self-Monitoring Program

Flow Measurement:

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

<i>Short crested weir with ultrasonic level sensor</i>
--
- (b) Flow meter calibrated annually Y
(Date of last calibration: **May, 2011**).
- (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:

With the new construction, a parshall flume will be installed.

The existing flow meter can measure up to 20 MGD.

Flow reading during inspection: 11:50am – 5.10 mgd, read at the chart recorder inside the chlorine bldg.

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:

Lab supervisor – Jon Collins (513)583-3091 or jon.collins@co.warren.oh.us

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:
 - 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..... Y
- (e) Analyses being performed more frequently than required by permit. Y
- (f) If (e) is yes, are results in permittee's self-monitoring report..... Y
- (g) Satisfactory calibration and maintenance of instruments/equipment. Y
(see score from GLC page)
- (h) Commercial laboratory used..... Y
Parameters analyzed by commercial lab: **metals, total phosphorus, low level Hg, TDN, NO3-NO2**
Lab name: **Belmont Labs**

Discharge Monitoring Report Quality Assurance (DMRQA)

- (a) Participation in latest USEPA quality assurance performance sampling..... Y
Date: **2010 – DMRQA Study #30**
- (b) Were any parameters "Unsatisfactory" **TSS** Y
- (c) Reasons for "Unsatisfactory" parameters.....

Reporting error.

Comments/Status:

Section J: Effluent/Receiving Water Observations

Outfall # **001**

Outfall Description: **Final effluent from chlorine contact tank**

Receiving Stream: **Unnamed tributary of Simpson Creek to Little Miami River at RM 28.14**

Receiving Stream Description:

Comments/Status:

The final effluent at the chlorine contact tank outfall was clear with a slight amount of suspended solids.

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

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

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

Comments/Status:

Facility is under construction.

Final Effluent Limitation Violations at Outfall 001
 (Period of Review: October, 2009 through June, 2011)

Reporting Period	Station	Parameter	Limit Type	Limit	Reported Value	Violation Date
July 2010	001	CBOD 5 day	30D Conc	8.0	8.49214	7/1/2010
September 2010	001	CBOD 5 day	7D Conc	12	13.3033	9/1/2010
September 2010	001	Dissolved Oxygen	1D Conc	5.0	4.8	9/15/2010
April 2011	001	Total Suspended Solids	30D Conc	20	54.0384	4/1/2011
April 2011	001	Total Suspended Solids	30D Qty	551	2307.57	4/1/2011
April 2011	001	Nitrogen, Ammonia (NH3)	30D Conc	1.3	1.96538	4/1/2011
April 2011	001	Nitrogen, Ammonia (NH3)	30D Qty	34	92.8356	4/1/2011
April 2011	001	Total Suspended Solids	7D Qty	827	1083.74	4/15/2011
April 2011	001	Nitrogen, Ammonia (NH3)	7D Conc	2.0	3.809	4/15/2011
April 2011	001	Nitrogen, Ammonia (NH3)	7D Qty	52	213.359	4/15/2011
April 2011	001	Total Suspended Solids	7D Conc	30	200.	4/22/2011
April 2011	001	Total Suspended Solids	7D Qty	827	8413.72	4/22/2011
April 2011	001	Nitrogen, Ammonia (NH3)	7D Conc	2.0	3.81567	4/22/2011
April 2011	001	Nitrogen, Ammonia (NH3)	7D Qty	52	155.962	4/22/2011
April 2011	001	Dissolved Oxygen	1D Conc	5.0	4.4	4/25/2011
May 2011	001	Nitrogen, Ammonia (NH3)	7D Conc	1.2	2.24233	5/1/2011
May 2011	001	Nitrogen, Ammonia (NH3)	30D Qty	21	30.3805	5/1/2011
May 2011	001	Nitrogen, Ammonia (NH3)	7D Qty	31	113.241	5/1/2011

-1D Conc = daily maximum concentration (mg/l)

-7D Conc and Qty = 7 Day (or weekly) concentration (mg/l) and Quantity (kg/day) - average values

-30D Conc and Qty = 30 Day(or monthly) concentration (mg/l) and Quantity (kg/day) - average values

The "Effluent/Receiving Waters" section of this report received a Marginal rating due to the final effluent limitation violations listed above. However, continued improvement in compliance has occurred since the last inspection in September, 2009. In your October 12, 2010 letter, in regards to the September, 2010 CBOD₅ and D.O. violations, you stated the plant was operating normally and indicated the exceedances may have been the result of operator sampling or testing error. It appears that the April and May, 2011 violations were the result of heavy rainfall events in those two months. The high influent flows adversely affected the treatment plant, causing plant bypasses, solids washouts, etc. Hopefully, the construction improvements that are occurring now will reduce or eliminate these types of violations in the future.