Ohio | Environmental Protection Agency

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

March 22, 2012

Mr. Robert Leventry
Butler County Water and Sewer Department
130 Hugh Street
Hamilton, Ohio 45011

RE: Butler County, Upper Mill Creek WWTP, Compliance Evaluation Inspection

Dear Mr. Leventry:

On March 16, 2012, I conducted a Compliance Evaluation Inspection at the Upper Mill Creek WWTP (NPDES Permit No. OH0072087; OEPA Permit No. 1PK00016*LD). The inspection was also conducted as part of the NPDES permit renewal. Representing this facility were Jack Thornsberry, Brian Custer, Todd Madden, Jeremy Hamel, Warren Barns, and Rick Baker. A copy of my inspection report is enclosed.

The Effluent/Receiving Water section was rated marginal due to the effluent violations. All areas addressed in the inspection report are being addressed. Therefore, no response is required at this time.

If you have any questions, please call me at (937) 285-6096.

Sincerely,

Ned Sarle
Environmental Specialist
Division of Surface Water
Permits Section

NS/ca

Enclosure

ec: Brian Custer, Butler County Water and Sewer Department
Todd Madden, Butler County Water and Sewer Department

Southwest District Office
401 East Fifth Street
Dayton, OH 45402-2911

937 | 285 6357
937 | 285 6249 (fax)
www.epa.ohio.gov

OhioEPA

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**
1PK00016*LD	OH0072087	3/16/2012	C	S	1

Section B: Facility Data		
Name and Location of Facility Inspected	**Entry Time**	**Permit Effective Date**
Butler County Upper Mill Creek WWTP 6055 Centre Park Drive West Chester, OH 45069	9:30 A.M.	2/1/2011
	Exit Time	**Permit Expiration Date**
	12:20 P.M.	7/31/2012
Name(s) and Title(s) of On-Site Representatives	**Phone Number(s)**	
Jack Thornsberry, Division Head of Operations Brain Custer, Field Superintendent Todd Madden, Chief Operator Jeremy Hamel, WW Operator III Warren Barns, Collection Supervisor Rick Baker, Maintenenace Operator	(513) 887-3929 (513) 887-5552 (513) 785-5281 (513) 887-3686 (513) 887-3686 (513) 887-3686	
Name, Address and Title of Responsible Official	**Phone Number**	
Robert Leventry, Director 130 High Street Hamilton, Ohio 45011	(513) 887-5616	

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	N	Laboratory	S	Compliance Schedule
S	Operations & Maintenance	M	Effluent/Receiving Waters	S	Self-Monitoring Program
S	Facility Site Review	S	Sludge Storage/Disposal	N	Other
S	Collection System				

Section D: Summary of Findings (Attach additional sheets if necessary)

See Attached Summary of Findings / Comments.

Inspector	Reviewer
Ned Sarle 3/22/12	Martyn Burt 3/22/12
Ned Sarle Division of Surface Water Southwest District Office Date	Martyn Burt Compliance & Enforcement Supervisor Division of Surface Water Southwest District Office Date

Permit #: 1PK00016*LD
NPDES #: OH0072087

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:

Facility has coverage under a general Industrial Storm Water NPDES Permit.

Section F: Compliance

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

Comments/Status:

See Attached Summary of Findings / Comments.

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.....

The two back-up power generators will operate the whole treatment plant.

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

The generators are operated monthly under a load. They are also tested weekly.

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

All critical components have an alarm system. The treatment plant operations are also monitored during perionds not normally staffed via a SCADA system monitored at the LeSourdsville WWTP. This WWTP is stafted 24 hours a day, 7 days a week.

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

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

Computer system.

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

(f) Operatio n 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:

See Attached Summary of Findings / Comments.

Section G: Operation & Maintenance con't

Record Keeping/Operator of Record:

(a) Wastewater Treatment Works classification (OAC 3745-7)..... IV
(b) Operator of Record holds unexpired license of class required by Permit..... Y
(c) Copy of certificate of Operator of Record displayed on-site..... Y
(d) Has the Operator of Record submitted an ORC Notification form. Y
(e) Minimum operator staffing requirements fulfilled (OAC 3745-7).... N/A
(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 book.

(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:

None.

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.....4
  ii. How many pump stations have telemetered alarms.....12
  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..... Y
(d) Are there CSOs in the collection system..... N/A
if so, what is the LTCP status.....

(e) How are CSOs monitored (chalk, block, level sensor, etc.).....

(f) Portabl e 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:

The Upper Mill Creek WWTP collection system has 12 pump stations. In addition to backup power, the county has two 4" portable pumps, one 8" portable pump, one portable generator, three vacuum trucks, and one sludge hauling truck.

See Attached Summary of Findings / Comments.

Section H: Sludge Management

(a) Method of Sludge Disposal...

- ☐ Land Application
- ☒ Haul to Another NPDES Permitee
- ☒ 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)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 – High pH and High Temperature (84369)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 3 – Other Processes (84369)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 4 – Unknown Processes (84369)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Composting (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Heat Drying (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Heat Treatment (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Thermophilic Aerobic Digestion (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Beta Ray Irradiation (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Gamma ray Irradiation (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 5 – Pasteurization (84397)	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 6 - Approved Equivalent Process	☐	☐	☐	☐	☐	☐	☐	☐

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)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 - Aerobic Digestion (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 - Air Drying (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 - Anaerobic Digestion (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 – Composting (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 2 - Lime Treatment (46396)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Alternative 3 – Approved Equivalent Process	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

(b) Has amount of sludge generated changed significantly since the last inspection..... N

(c) How much sludge storage is provided at the plant.....
30 days.

(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" scree n at headworks for facilities that land apply sludge..... N/A

(g) Are sludge application sites inspected to verify compliance with NPDES permit..... N/A

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

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

Comments/Status:

See Attached Summary of Findings / Comments.

Section I: Self-Monitoring Program

Flow Measurement:

(a) Primary/Secondary flow measuring devices (e.g. weir with ultrasonic level sensor):
Parshal flume and radar.

(b) Flow meter calibrated annually ..... Y
(Date of last calibration: 8/31/2011)

(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:

Flow may be monitored between 0 - 59 MGD.

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:

None.

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 know precision and accuracy. Standard operating procedures are to be used in the laboratory in sufficient detail that a competent analyst unfamiliar with the method can conduct a reliable review and/or obtain acceptable results." SOPs should be developed for each analytical procedure.

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

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

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

Lab name:

Discharge Monitoring Report Quality Assurance (DMRQA)

(a) Participation in latest USEPA quality assurance performance sampling..... N/E
Date:

(b) Were any parameters "Unsatisfactory"..... N/E

(c) Reasons for "Unsatisfactory" parameters.....

Comments/Status:

The Upper Mill Creek WWTP tests for the pH, temperature, and DO. All other wastewater samples are transferred to the LeSourdsville WWTP where they are either tested or sent to the contract lab.

Section J: Effluent/Receiving Water Observations

Outfall # 001
Outfall Description: Effluent pipe

Receiving Stream: East Fork Mill Creek
Receiving Stream Description: No adverse impacts were noted.

Comments/Status:

None.

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:

None.

Summary of Findings / Comments

A review of the Discharge Monitoring Reports (DMRs) for April 2011 through January 2012 indicated several NPDES permit violations. These violations are as follows:

Reporting Period	Parameter	Limit Type	Units	Permit Limit	Reported Value
July 2011	Phosphorus	Monthly	mg/l	1.0	1.2
July 2011	Phosphorus	Weekly	mg/l	1.5	1.6
December 2011	TSS	Weekly	kg/day	1090.1	2370.6
December 2011	Phosphorus	Weekly	mg/l	1.5	1.6
December 2011	Nitrite + Nitrate	Weekly	kg/day	454.2	607.1

The July 2011 violations were caused by a situation that the county is still trying to understand. In the past, the biological treatment has been inhibited due to conditions not fully understood. It was thought that these events might be the result of an industrial discharge containing high levels of quaternary ammonia. However, an industrial source has not been found at this time. The county is not sure if other WWTP conditions are contributing to these events. To assist in this investigation, the county has hired Dan Miklos. Extensive WWTP sampling has been conducted to try and pinpoint the source of these sporadic violations. This investigation is still ongoing. The county should notify us of their findings from this investigation. The December 2011 violations were caused by a high flow event. At this time, these violations have been adequately addressed. Future violations must continue to be reported as required by the NPDES Permit as detailed in Part III, Section 12 titled "Noncompliance Notifications."

The WWTP is designed for an average daily flow of 16.0 MGD and a peak daily flow of 40.0 MGD. A review of the DMRs for this period indicated that the average daily flow was 9.58 MGD. The peak daily flow was 38.19 MGD and occurred on December 6, 2011.

The treatment system consists of a bar rack, vortex grit tank, anaerobic selector tank, anoxic tank, oxidation ditch, secondary clarifier, ultraviolet disinfection and cascade aeration. A flow equalization tank is also provided. Waste activated sludge is immediately pressed using a centrifuge sludge press and then hauled from the site.

For the original WWTP, a gate valve and another valve need to be replaced for the oxidation ditch. For the new WWTP, an oxidation ditch surface aerator gear box needs to be replaced, and the wastewater piping to the secondary clarifier needs to be visually inspected to determine the reason that reduced flows are discharged to this tank. To complete all of this work, each treatment system will have to be taken offline one at a time. The county hopes to complete this work later this spring.

For April 2011 through January 2012, three overflows were reported from the sewage collection system. These overflows were reported on the DMRs and in the annual SSO report. Information on these overflows is as follows:

Location	Date	Cause	Volume (MGD)
5250 Aster Park	4/3/11	Grease	0.019
8197 Meeting St.	9/26/11	Grease	0.018
Sharon Creek PS	10/12/11	Air Relief Valve	< 5 gallons

These overflows were reported as required by the NPDES Permit as detailed in Part II, Section D. A written report addressing overflows that imminently and substantially endanger human health is required to be submitted within five days of each event. As of April 1, 2011, the county was requested to submit these written reports for all sewage collection system overflows. The county is now submitting these written reports for all overflows.

Butler County owns and operates a total of approximately 700 miles of sanitary sewers. Twelve pump stations are also provided for the sewage collection system tributary to the Upper Mill Creek WWTP. The sanitary sewers are cleaned approximately once every five years. Visual inspections of the sanitary sewers are also occurring approximately once every ten years. In 2011, approximately 712,000 feet of sanitary sewers were cleaned. Visual inspections were also conducted for approximately 570,000 feet of sanitary sewers. The visual inspections increased over 40% from last year due to new construction being significantly less. This allowed the county to spend more time on inspecting existing sanitary sewers. Sanitary sewer manholes continue to be repaired when found to be deficient. Significant sources of infiltration and inflow (I / I) continued to be eliminated as they are found. Sanitary sewers are also being replaced or slip lined in problematic areas to further control I / I. The sanitary sewer is also being repaired using a spot liner system. This repair process is an effective way to control small sources of I / I.

The required annual SSO report was received on January 26, 2012. For 2011, two water in the basement events (WIBs) were reported. One event was due to extreme weather while the other event was due to a blockage. Butler County continues to have an effective sanitary sewer operation and maintenance program.

No WWTP bypasses occurred for April 2011 through January 2012. Future bypasses must be reported as required by the NPDES permit as detailed in Part III, Section 11 titled "Unauthorized Discharges."

The annual sludge disposal report was received on January 18, 2012. In 2011, 105 dry tons were hauled to the Rumpke Landfill, and 1786 dry tons were hauled to the MSD Mill Creek and Little Miami WWTP incinerators.

Butler County has a compliance schedule for complying with annual load limits for phosphorus and Nitrate + Nitrite. On August 2, 2011, the status report required by the NPDES permit was received by this office. General plans for complying with the new limits are required to be submitted by January 31, 2013. The new limits are scheduled to become effective on January 31, 2017.