



Innocent B. Martin, Governor
Michael R. DeWine, Governor
Susan F. Wente, Director

February 15, 2013

Jim Hostetter, General Manager
Candlewood Lake WWTP
7326 SR 19
Mount Gilead, OH 43338

NOTICE OF VIOLATION

**Re: Candlewood Lake WWTP
NPDES Permit 4PU00005/ OH0081370
Compliance Evaluation Inspection
Morrow County**

Dear Mr. Hostetter:

This correspondence serves as a **Notice of Violation** for non-compliance with NPDES permit limits at the wastewater treatment plant serving the Candlewood Lake development. On January 30, 2013, a Compliance Evaluation Inspection was conducted at the Candlewood Lake WWTP. Present for the inspection were Wes Craft, contract operator from McGhee's Technical Services and myself of the Ohio EPA, Central District Office, Division of Surface Water.

This facility is currently in Significant Non-Compliance (SNC) due to the frequency and magnitude of effluent violations for ammonia. The ammonia violations were attributed to a leak in the air transfer piping caused by the failure of a non-heat resistant gasket. The gasket was replaced in early December and the facility has maintained compliance with ammonia limits following the repair. Please be advised that it will be necessary to maintain compliance with your ammonia limit for three successive months in order to be removed from the SNC list. Failure to resolve the ammonia violations and maintain compliance with NPDES permit limits may result in the initiation of formal enforcement action.

If you have any questions or comments concerning the enclosed inspection report, please contact me at (614) 728-3848 or e-mail at mike.sapp@epa.state.oh.us.

Sincerely,

Michael Sapp
Compliance and Enforcement Unit
Division of Surface Water
Central District Office

ec: Michael Sapp

MS/nsm Candlewood Lake WWTP 13

NPDES Compliance Inspection Report

SECTION A: NATIONAL DATA SYSTEM CODING				
Permit #	NPDES #	Inspection Type	Inspector	Facility Type
4PU00005	OH0061570	CEI	S	Public
Inspection Date	Entry Time	Exit Time	Notice of Violation	Significant Non-Compliance
1/30/2013	9:35 AM	11:45 AM	Yes	Yes

SECTION B: FACILITY DATA	
Name and Location of Facility Inspected	Permit Effective Date
Candlewood Lake WWTP 7326 SR 19 Mount Gilead, OH 43338	8/1/2012
	Permit Expiration Date
	7/31/2017
Name(s) and Title(s) of On-Site Representatives	Phone Numbers
Wes Craft, Contract Operator	(419) 826-4716
Name and Title of Responsible Official	Phone Number
Jim Hostetler, General Manager	(419) 947-1138

SECTION C: AREAS EVALUATED DURING INSPECTION		
Key: S = Satisfactory, M = Marginal, U = Unsatisfactory, N = Not Evaluated		
U	NPDES Compliance	Failure to provide responses to effluent violations
S	Operations & Maintenance	
S	Facility Site Review	
S	Collection System	
S	Flow Measurement	
U	Receiving Waters	SNC due to ammonia violations
S	Laboratory	

Comments:

Signatures	
 2/13/13	 2/13/13
Michael Sapp, Inspector Compliance & Enforcement Division of Surface Water Central District Office	Erin Sherer, Reviewer Compliance & Enforcement Supervisor Division of Surface Water Central District Office

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 N
- (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 Y*
- (b) Permittee is taking actions to resolve violations Y*
- (c) Permittee has a compliance schedule Y*
- (d) Permittee is meeting compliance schedule Y

Comments:

SECTION F: OPERATION AND MAINTENANCE

- (a) Standby power available Y*
If yes, what type?
- (b) Adequate alarm system available for power or equipment failures Y*
- (c) All treatment units in service other than backup units Y*
- (d) Wastewater Treatment Works classification II
- (e) Operator of Record holds unexpired license of class required by Permit..
Class held: III
- (f) Copy of certificate of Operator of Record displayed on-site N
- (g) Minimum operator staffing requirements fulfilled..... Y*
- (h) Routine and preventative maintenance scheduled and performed Y
- (i) Any major equipment breakdown since last inspection..... Y*
- (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:

SECTION G: RECORD KEEPING

- a) Log book provided Y
- b) Format of log book (i.e. computer log, hard bound book)
Hard bound 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 sheets) Y
 - 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? ... N

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 N
- 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 N
- k) Are any portions of the sewer system at or near capacity N
- l) Are operations changed during high-flow events? N

Comments:

SECTION I: SLUDGE MANAGEMENT

- a) Sludge management plan (SMP) last audited by Ohio EPA:
Audit Date: unknown*
- b) Sludge adequately disposed..... Y
Method: land application
- c) If sludge is incinerated, where is ash disposed of..... NA
- d) Is sludge disposal contracted..... Y
Name: Agrisludge
- e) Has amount of sludge generated changed significantly..... N
- f) Adequate sludge storage provided at plant..... Y*
- g) Records kept in accordance with State and Federal law Y
- h) Any complaints received last year regarding sludge..... N
- i) Is sludge adequately processed (digestion, pathogen control) Y

Comments:

SECTION J: SELF-MONITORING PROGRAM

- a) Primary flow measuring device operated and maintained..... Y*
Type of device: ultrasonic/v-notch weir Device location: effluent
- b) Calibration frequency adequate Y*
Date of last calibration: monthly
- c) Secondary instruments operated and maintained..... Y
- 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 monthly
- g) Sampling location(s) are as specified by permit.....
- 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 N
If yes, are results recorded in permittee's report? NA
- d) Commercial laboratory used:
Name: MASI and Alloway
Parameters analyzed: all parameters except DO, temp, and pH
- e) Quality assurance manual provided and maintained Y
- f) Calibration and maintenance of instruments is satisfactory? Y
- g) Results of last U.S. EPA quality assurance NA
Date:

Comments:

SECTION L: EFFLUENT/RECEIVING WATER OBSERVATIONS

Outfall Number	Outfall sign in place	Oil Sheen	Grease	Turbidity	Foam	Solids	Color	Other
001	Yes	No	No	No	No	No	Clear	

Comments:

SECTION M: MULTIMEDIA OBSERVATIONS

- a) Are there indications of sloppy housekeeping or poor maintenance in work and storage areas or laboratories N
- b) Do you notice distressed (unhealthy, discolored, dead) vegetation N
- c) Do you see unidentified dark smoke or dust clouds coming from sources other than smokestacks N
- d) Do you notice any unusual odors or strong chemical smells N
- e) 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:

ADDITIONAL INFORMATION
Candlewood Lake Wastewater Treatment Plant
4PU00005 - OH0081370

General

The Candlewood Lake WWTP has a design average treatment capacity of 300,000 gpd with a peak daily flow of 1,000,000 gpd. The current plant, which was placed in operation in January 2005, was designed with an estimated future population of 3000 people. The plant discharges to Whetstone Creek below the Candlewood Lake dam.

The plant consists of two parallel treatment trains, each designed for 150,000 gpd. Wet stream processes provided at the facility include flow splitting, flow equalization (provided by the former lagoons), influent lift station, two 150,000 gallon aeration basins, two final settling tanks, rapid sand filters followed by ultraviolet disinfection and postaeration. Solids handling facilities consist of aerobic digestion, followed by land application. Sludge digestion is performed in two tanks which collectively provide greater than 120 days of storage.

Section D. - Permit Verification

- (d.) The average daily influent flow for the time period between August 2011 – December 2012 was 71,000 gpd. The maximum flow experienced during this time period was 277,000 gpd. The lagoons have seldom been utilized for flow equalization during the past year. At the time of the inspection, a small amount of flow was entering the lagoons over the weir in the splitter box upstream of the plant.

Section E. - Compliance

- (a.) NPDES permit violations from August 2011 – December 2012 are included in the attached table. The recent ammonia violations were attributed a leak in the air piping to the aeration basins.
- (b.) The contract operators replaced a bad gasket in the air piping in early December 2012. The non-heat resistant gasket was replaced with a heat resistant gasket. Ammonia results have been within permitted limits following the repair. The operators have also initiated internal operational monitoring for temperature, alkalinity, ammonia and dissolved oxygen in order to detect and correct problems sooner.
- (c.) The NPDES permit contains a phosphorus reduction implementation schedule to meet a final limit of 1.0 mg/L before August 1, 2015. The current average phosphorus concentration is 3.12 mg/L with a range of 1.27-5.45 mg/L. Please be aware that the first compliance milestone in the schedule requires the implementation of measures to maximize the ability of the existing facility to achieve a final limit of 1.0 mg/L by August 1, 2013.

Section F. - Operation and Maintenance

- (a.) The treatment plant has two portable diesel powered generators capable of providing back-up power to the entire plant. These units must be manually activated. The generators are exercised under load twice a year.
- (b.) The influent lift station has audible and visual alarms, however, it is not equipped with an autodialer. The water treatment plant is equipped with an autodialer which will provide notification in the event of power failure.
- (c.) Under current flow conditions, the plant normally operates only one of the two aeration basins during the winter months. The second aeration basin was placed into service just prior to the inspection due to recent heavy rains.
- (g.) Contract operations are provided at the plant 5 days/week for approximately 2-3 hours per day. Candlewood Lake staff perform plant walkthroughs on weekends. Wes Craft, the primary contract operator holds a Class III license; the effective NPDES permit requires a Class II.
- (i.) Following the failure of the gasket on the air transfer piping, the plant maintains a back-up supply of the heat resistant gaskets.

Section H. Collection System

- (a.) The collection system consists of small diameter sewers with grinder pumps and check valves. One grinder pump serves 2 residences. Candlewood Lake maintenance staff perform repairs to grinder pumps.
- (g.) There are 2 pump stations in the collection system; these units are equipped with visual/audible alarms. These units are not currently utilized; pressure from the individual grinder pumps has been sufficient to convey all wastewater to the treatment plant.
- (i.) The design of the collection system helps to minimize the volume of inflow and infiltration.

Section I. - Sludge Management

- (a.) Land application of sludge is authorized in the effective NPDES permit. Sludge is generally land applied twice a year. Sludge hauling and injection is currently being performed by Agrisludge. Fields utilized for land application are owned by Candlewood Lake. Sodium bicarbonate and alum are used to facilitate decanting, if necessary, prior to hauling.
- (f.) The plant has over a year of storage at the present time.

Section J. - Self Monitoring Program

- (a.) Effluent flows reported at outfall 001 are measured using an ultrasonic meter mounted above a V-notch effluent weir. The plant is not equipped with a means of measuring the influent flows.
- (b.) The plant operator performs an internal calibration of the effluent flow meter once a month
- (h.) The effluent composite sampler collects a time-weighted composite sample. Please be advised that Part II.F. of the effective permit requires that composite samples be comprised of a series of grab samples proportionate in volume to the sewage flow rate at the time of sampling. Please evaluate the feasibility of collecting a flow weighted composite sample.

Section K. - Laboratory

- (d.) The contract operator performs analyses for dissolved oxygen, temperature and pH. The remaining parameters are analyzed by MASI, a contract commercial laboratory. Alloway Labs performs analysis for metals twice a year and annual sampling for sludge parameters. Effluent composite samples are collected on Tuesdays and Wednesdays.

SUMMARY OF FINDINGS AND COMMENTS
Candlewood Lake Wastewater Treatment Plant

1. At the time of the inspection, the following general observations were made with the operational and maintenance practices at the plant;
 - Backwash water from the rapid sand filters is discharged to the north lagoon which is hydraulically connected to the south lagoon.
 - The plant receives approximately 2000-3000 gpd from the red water filters at the water treatment plant.
 - A valve box with a weir, located east of the lagoons, is used to direct water from the lagoons to the treatment plant.
 - 30-minute settleability tests are performed to dictate wasting. Target settleabilities are 35-50%.
 - Two aeration blowers are run full-time in the summer; one blower is used in the winter.
 - The rapid sand filters are backwashed approximately four times a day. Backwashing is controlled
 - Geysers pumps are used for WAS and RAS.
 - Effluent alkalinity is periodically monitored to ensure that the residual alkalinity exceeds 100 ppm. Sodium bicarbonate is added to the plant to increase alkalinity, if necessary.
2. Several upgradient artesian wells were installed below the Candlewood Lake dam, upstream from the permitted outfall 001, in order to provide dilution water for the discharge and to maintain stream flow on a year round basis.
3. This facility is currently in Significant Non-Compliance (SNC) due to the frequency and magnitude of effluent violations for ammonia (i.e. an exceedance of 40% or more of the permitted limit during two or more months). The ammonia violations were attributed to a leak in the air transfer piping caused by the failure of a non-heat resistant gasket. The gasket was replaced in early December and the facility has maintained compliance with ammonia limits following the repair. Please be advised that it will be necessary to maintain compliance with your ammonia limit for three successive months in order to be removed from the SNC list. Failure to resolve the ammonia violations and maintain compliance with NPDES permit limits may result in the initiation of formal enforcement action.

4. Please be advised that Part III-12 of your effective NPDES permit requires that you submit an email or a letter of explanation outlining the actions you have taken or are taking to correct certain instances of non-compliance. This requirement is particularly important for facilities such as Candlewood Lake which are in SNC. The operator provided responses to the October-December 2012 violations on January 25, 2013 and has resolved to provide responses by the 25th day of the month following the receipt of the Preliminary Non-compliance Reports.

Compliance Data for Candlewood Lake WWTP between 8/1/2011 to 1/1/2013

Summary

Permit Effluent Limit Violations: 8
 Permit Effluent Code Violations: 0
 Permit Effluent Frequency Violations: 0
 Compliance Schedule Violations: 3

Limit Violations						
Reporting Period	Station	Parameter	Limit Type	Limit	Reported Value	Violation Date
October 2012	001	Nitrogen, Ammonia (NH3)	30D Conc	1.5	1.1325	9/1/2012
October 2012	001	Nitrogen, Ammonia (NH3)	7D Conc	1.5	4.4	9/15/2012
October 2012	001	E. coli	7D Conc	362	450	10/22/2012
November 2012	001	Nitrogen, Ammonia (NH3)	30D Conc	2.8	5.675	10/1/2012
November 2012	001	Nitrogen, Ammonia (NH3)	7D Conc	4.2	19.25	11/22/2012
December 2012	001	Nitrogen, Ammonia (NH3)	30D Conc	2.8	3.82857	12/1/2012
December 2012	001	Nitrogen, Ammonia (NH3)	7D Conc	4.2	17.7	12/1/2012
December 2012	001	Nitrogen, Ammonia (NH3)	7D Conc	4.2	16.7	12/3/2012

Missing Compliance Schedule Milestones				
Schedule Due Date	Completion Date	Event Code	Schedule Type	Schedule Milestone
August 2013		93899	Other	Implement Pollution Plan
February 2014		1299	Construction	Final Plan Submitted
August 2015		5699	Construction	Final Compliance w/ Eff Limits

Flow Data for Candlewood Lake WWTP between 8/1/2011 and 1/1/2013

	Date	Flows (MGD)
Ten Highest Flows	2/5/2012	0.277
	12/6/2011	0.249
	2/7/2012	0.223
	10/19/2011	0.216
	12/4/2011	0.216
	12/1/2011	0.181
	10/29/2012	0.181
	12/7/2011	0.177
	11/29/2011	0.171
	12/3/2011	0.169
Average Flow Rate		0.071