



State of Ohio Environmental Protection Agency

Northeast District Office

2110 East Aurora Rd.  
Twinsburg, Ohio 44087

TELE: (330) 963-1200 FAX: (330) 487-0769  
www.epa.state.oh.us

Ted Strickland, Governor  
Lee Fisher, Lieutenant Governor  
Chris Korleski, Director

February 15, 2008

RE: TRUMBULL COUNTY  
MOSQUITO CREEK WWTP  
NPDES PERMIT NO: OH0043401  
OHIO EPA PERMIT NO. 3PK00009  
COMPLIANCE EVALUATION INSPECTION

Mr. Rex Fee, Executive Director  
Trumbull County Sanitary Engineer's Office  
842 Youngstown Kingsville Road  
Vienna, OH 44473

Dear Mr. Fee:

An inspection was conducted by the undersigned at the Mosquito Creek Wastewater Treatment Plant on January 8 and 15, 2008. The County was represented by Mr. Art Bain, Interim Superintendent. The purpose of the inspection was to evaluate the facility's compliance status with respect to the terms and conditions of the above-referenced National Pollutant Discharge Elimination System (NPDES) permit.

**Inspection Findings/Compliance Status**

The wet-stream processes of the 4.2 MGD treatment plant consist of comminution/mechanical bar screening, aerated grit removal, micro-screening, primary settling, activated sludge, nitrification towers, final settling, chlorine disinfection, dechlorination, and post aeration. Off-line flow equalization is provided in a lagoon for peak flow retention. The plant discharges to Mosquito Creek via Outfall 001. Waste activated sludge is presently processed through an aerobic digester and belt filter press prior to landfill disposal.

At the time of the inspection, the following observations and comments were noted:

1. The final effluent was clear with no observable adverse impact to Mosquito Creek. However, it was noted that only half of the aeration tank capacity was in service. Consequently, the plant did not appear to be operating at peak efficiency.
2. It was noted that the facility has had a number of overflow events from the lagoon due to excessive inflow and infiltration (I/I). We understand that the County has initiated a study to evaluate sources of extraneous I/I in the collection system. The efficiency of wastewater treatment at the treatment plant depends strongly on the design and performance of the collection system. High levels of I/I increase the hydraulic load on the treatment plant, which can reduce treatment efficiency, can exceed the capacity of components within the treatment process, and, in extreme situations, wash out the biological organisms that treat the wastewater. Hence, removal of extraneous "clean water" from the collection system will go a long way toward protecting the substantial investment that the County has made at the treatment plant.
3. The exposed steel surfaces, e.g. final clarifiers, should be painted at the earliest opportunity to retard corrosion.

A review of the facility's discharge monitoring reports (DMRs) received by Ohio EPA for the period August 2006 through December 2007 indicate violations of the terms and conditions contained in the NPDES permit. The specific instances of noncompliance are as follows:

Reporting Period	Station	Parameter	Limit Type	Limit	Reported Value	Violation Date
October 2006	001	Chlorine, Total Residual	1D Conc	0.027	.18	10/23/2006
October 2006	001	Chlorine, Total Residual	1D Conc	0.027	.26	10/24/2006
October 2006	001	Chlorine, Total Residual	1D Conc	0.027	.2	10/25/2006
October 2006	001	Chlorine, Total Residual	1D Conc	0.027	.26	10/26/2006
October 2006	001	Chlorine, Total Residual	1D Conc	0.027	.25	10/27/2006
October 2006	001	Chlorine, Total Residual	1D Conc	0.027	.24	10/28/2006
October 2006	001	Chlorine, Total Residual	1D Conc	0.027	.41	10/29/2006
October 2006	001	Chlorine, Total Residual	1D Conc	0.027	.26	10/30/2006
October 2006	001	Chlorine, Total Residual	1D Conc	0.027	.22	10/31/2006
May 2007	001	Chlorine, Total Residual	1D Conc	0.027	.28	5/1/2007
October 2007	001	Nitrogen, Ammonia (NH3	30D Conc	2.0	5.132	10/1/2007
August 2007	001	Nitrogen, Ammonia (NH3	30D Conc	2.0	2.589	8/1/2007
July 2007	001	Nitrogen, Ammonia (NH3	30D Conc	2.0	2.67714	7/1/2007
October 2007	001	Nitrogen, Ammonia (NH3	30D Qty	32	57.3228	10/1/2007
October 2007	001	Nitrogen, Ammonia (NH3	7D Conc	3.0	4.93	10/8/2007
October 2007	001	Nitrogen, Ammonia (NH3	7D Conc	3.0	7.71667	10/15/2007
October 2007	001	Nitrogen, Ammonia (NH3	7D Conc	3.0	4.78333	10/22/2007
August 2007	001	Nitrogen, Ammonia (NH3	7D Conc	3.0	3.795	8/8/2007
August 2007	001	Nitrogen, Ammonia (NH3	7D Conc	3.0	3.18333	8/15/2007
October 2007	001	Nitrogen, Ammonia (NH3	7D Qty	48	68.3085	10/15/2007
October 2007	001	Nitrogen, Ammonia (NH3	7D Qty	48	78.1719	10/22/2007
September 2007	001	Oil and Grease, Hexane	1D Conc	10	13.	9/11/2007
September 2006	001	Silver, Total Recoverable	30D Conc	2.0	4.3	9/1/2006
September 2006	001	Silver, Total Recoverable	30D Qty	0.03	.0651	9/1/2006
April 2007	001	Total Suspended Solids	7D Qty	477	557.101	4/1/2007

Station	Parameter	Units	Date	Reported Value
300	Overflow Occurrence	No./Month	10/1/2006	1
300	Overflow Occurrence	No./Month	10/17/2006	1
300	Overflow Occurrence	No./Month	10/19/2006	1
300	Overflow Occurrence	No./Month	10/20/2006	1
300	Overflow Occurrence	No./Month	10/27/2006	1
300	Overflow Occurrence	No./Month	10/28/2006	1
300	Overflow Occurrence	No./Month	10/30/2006	1
300	Overflow Occurrence	No./Month	3/2/2007	1
300	Overflow Occurrence	No./Month	3/4/2007	1
300	Overflow Occurrence	No./Month	3/15/2007	1
300	Overflow Occurrence	No./Month	3/23/2007	1
300	Overflow Occurrence	No./Month	12/12/2007	1
300	Overflow Occurrence	No./Month	12/13/2007	1
300	Overflow Occurrence	No./Month	12/16/2007	1

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In addition to the above, a review of the laboratory protocols noted the following:

1. The current MDL being reported for Silver is above the NPDES permit limit. The facility must immediately begin utilizing a methodology, e.g. the graphite furnace AA method, for this parameter.
2. The facility's Quality Assurance/Quality Control (QA/QC) protocols were not up to date. The laboratory must continually review and graphically display the QA/QC data that is being generated. This deficiency may be due, in part, to the reduction of the staffing level in the laboratory.

**Summary/Conclusion**

It is requested that the County submit a written response to this office documenting the actions taken or proposed to address the above violations and/or deficiencies. Your response shall include dates for initiation and completion of the actions. Please be advised that violations of the terms and conditions of the NPDES permit are subject to appropriate enforcement actions pursuant to Chapter 6111 of the Ohio Revised Code. Such actions can result in the imposition of fines of up to \$10,000 per day of violation.

Should you have any questions or comments regarding this letter, please contact me at (330) 963-1196.

Respectfully,

  
Ermelindo Gomes  
Environmental Engineer  
Division of Surface Water

EG/mt

File: Public/Trumbull County/Mosquito Creek WWTP

