



Environmental  
Protection Agency

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

March 9, 2011

RE: MOUNT HOPE  
NPDES PERMIT NO. 3PG00135  
FFY 2011 CEI

Mr. Chris Young, P.E.  
Holmes County Engineer  
P.O. Box 90  
Millersburg, OH 44654

Mr. Young,

On February 18, 2011, this writer met with you and Kevin Dean at the Mt. Hope POTW. The intent of the inspection was to review operations and maintenance of the plant and to discuss phosphorus removal. The compliance record for the treatment plant was also reviewed as part of this inspection.

At the time of an October 1, 2010 inspection, the treatment plant had a heavy influent load of phosphorus. The heavy load was causing operational problems with the plant. Since then, the source of the phosphorus was identified and eliminated.

At the time of this most recent inspection, the influent concentration of phosphorus had significantly been reduced. The color of the aeration tank and the return sludge was a medium brown color indicating a healthy community of microbes necessary for treatment. The clarifier was free of sludge or scum on the surface.

The sand filter had a deposition of sludge on the surface indicating past settling problems with the mixed liquor. Mr. Dean indicated that sludge could not be removed from the plant for a three week period leading up to the February 18, 2011 inspection because of freezing temperatures and snow deposits on the steep driveway to the plant. The inability to routinely remove sludge from the plant can cause settling problems and result in the deposition of sludge on the sand filters. At the time of this inspection, Mr. Dean indicated that sludge was being hauled from the plant at an accelerated rate in an attempt to balance the system. The settling characteristics of the sludge should be checked periodically until the system is in balance and demonstrates good settling characteristics.

Compliance with the NPDES Permit phosphorus limit was still a problem at the time of the inspection. However, the effluent concentration and the ferric chloride use had been reduced significantly since the October 2010 inspection. This is the result of finding and eliminating a large source of phosphorus to the plant. The effluent phosphorus concentration is expected to improve as excessive sludge is removed from the plant and as the application rate for ferric chloride is adjusted. If necessary, polymers may be used to improve settling and reduce the effluent phosphorus concentration.

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The compliance record for the Mt. Hope POTW was reviewed as part of this inspection. The period of review was January through December 2010. Following is a list of violations identified for the Mt. Hope POTW.

Reporting Period	Parameter	Limit Type	Limit	Reported Value	Violation Date
January 2010	Dissolved Oxygen	1D Conc	5.0	4.5	1/4/2010
January 2010	Dissolved Oxygen	1D Conc	5.0	3.96	1/22/2010
February 2010	Dissolved Oxygen	1D Conc	5.0	2.86	2/1/2010
February 2010	Dissolved Oxygen	1D Conc	5.0	3.78	2/8/2010
February 2010	Dissolved Oxygen	1D Conc	5.0	2.66	2/15/2010
February 2010	Dissolved Oxygen	1D Conc	5.0	2.62	2/23/2010
March 2010	Nitrogen, Ammonia	30D Conc	5.6	6.26	3/1/2010
March 2010	Nitrogen, Ammonia	30D Qty	0.47	.54496	3/1/2010
March 2010	Dissolved Oxygen	1D Conc	5.0	3.1	3/1/2010
March 2010	Dissolved Oxygen	1D Conc	5.0	2.72	3/8/2010
March 2010	Dissolved Oxygen	1D Conc	5.0	2.93	3/15/2010
May 2010	Dissolved Oxygen	1D Conc	5.0	2.98	5/3/2010
June 2010	Phosphorus, Total (P)	30D Conc	1.0	9.09	6/1/2010
June 2010	Phosphorus, Total (P)	7D Conc	1.5	9.09	6/1/2010
June 2010	Phosphorus, Total (P)	30D Qty	0.083	.79133	6/1/2010
June 2010	Phosphorus, Total (P)	7D Qty	0.12	.79133	6/1/2010
July 2010	Phosphorus, Total (P)	30D Conc	1.0	6.16	7/1/2010
July 2010	Phosphorus, Total (P)	30D Qty	0.083	.46631	7/1/2010
July 2010	Phosphorus, Total (P)	7D Conc	1.5	6.16	7/15/2010
July 2010	Phosphorus, Total (P)	7D Qty	0.12	.46631	7/15/2010
August 2010	Phosphorus, Total (P)	30D Conc	1.0	2.94	8/1/2010
August 2010	Phosphorus, Total (P)	30D Qty	0.083	.22256	8/1/2010
August 2010	Phosphorus, Total (P)	7D Conc	1.5	2.94	8/15/2010
August 2010	Phosphorus, Total (P)	7D Qty	0.12	.22256	8/15/2010
September 2010	Nitrogen, Ammonia	30D Conc	1.5	1.68	9/1/2010
September 2010	Nitrogen, Ammonia	30D Qty	0.13	.17169	9/1/2010
September 2010	Phosphorus, Total (P)	30D Conc	1.0	2.06	9/1/2010
September 2010	Phosphorus, Total (P)	30D Qty	0.083	.21052	9/1/2010
September 2010	Phosphorus, Total (P)	7D Conc	1.5	2.06	9/8/2010
September 2010	Phosphorus, Total (P)	7D Qty	0.12	.21052	9/8/2010
October 2010	Nitrogen, Ammonia (NH3)	30D Qty	0.13	.16472	10/1/2010
October 2010	Phosphorus, Total (P)	30D Conc	1.0	1.56	10/1/2010
October 2010	Phosphorus, Total (P)	7D Conc	1.5	1.56	10/1/2010
October 2010	Phosphorus, Total (P)	30D Qty	0.083	.20076	10/1/2010
October 2010	Phosphorus, Total (P)	7D Qty	0.12	.20076	10/1/2010
October 2010	Dissolved Oxygen	1D Conc	5.0	2.06	10/25/2010
November 2010	Phosphorus, Total (P)	30D Conc	1.0	3.27	11/1/2010
November 2010	Phosphorus, Total (P)	7D Conc	1.5	3.27	11/1/2010

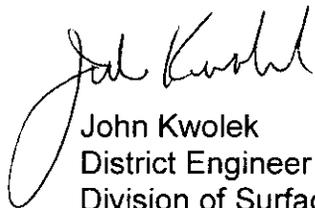
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Reporting Period	Parameter	Limit Type	Limit	Reported Value	Violation Date
November 2010	Phosphorus, Total (P)	30D Qty	0.083	.37131	11/1/2010
November 2010	Phosphorus, Total (P)	7D Qty	0.12	.37131	11/1/2010
December 2010	Phosphorus, Total (P)	30D Conc	1.0	2.18	12/1/2010
December 2010	Phosphorus, Total (P)	7D Conc	1.5	2.18	12/1/2010
December 2010	Phosphorus, Total (P)	30D Qty	0.083	.15677	12/1/2010
December 2010	Phosphorus, Total (P)	7D Qty	0.12	.15677	12/1/2010

As can be seen, phosphorus is the main concern at the Mount Hope treatment plant. However, this writer has observed that the county is taking steps to eliminate the compliance issues. It is recommended that if possible, the county modify the driveway to the treatment plant so that the plant may be accessed even during ice and snow conditions.

You may contact this writer at (330) 963-1251 or at [john.kwolek@epa.state.oh.us](mailto:john.kwolek@epa.state.oh.us) to discuss any questions regarding this letter.

Respectfully,



John Kwolek  
District Engineer  
Division of Surface Water

JK/mt

cc: Kevin Dean, Dean's Backflow Service, LLC