



State of Ohio Environmental Protection Agency

**STREET ADDRESS:**

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September 3, 2009

2IK00027\*AD  
Fulton County

**CERTIFIED MAIL**

Karel van de Kolk  
Chesterfield Dairy, LLC  
15710 County Road 14  
Lyons, OH 43533

Re: Notice of Violation, Manure Discharge to Bear Creek causing Fish Kill

Dear Mr. van de Kolk,

Ohio EPA, Division of Surface Water is aware of a large manure discharge and fish kill related to the land application of manure by Chesterfield Dairy. This incident took place on and around July 16, 2009.

**BACKGROUND**

At approximately 9:30 pm on July 16, 2009, Brett Kolb of the Fulton County Emergency Management Agency (EMA) called the Ohio EPA Spill Hotline to report a large manure release to Bear Creek. Residents downstream of Chesterfield Dairy had noticed a strong manure smell that evening and notified the Fulton County Sheriff's Department. Sheriff's Deputies and Fulton County EMA personnel responded and discovered a ditch running black with manure. The source of the discharge was not discovered during the evening of July 16 due to the darkness.

At approximately 10:00 am on July 17, 2009, Dave Schilt (Ohio EPA, Division of Emergency and Remedial Response) arrived to investigate the manure discharge. By that time, Chesterfield Dairy had been confirmed to be the source of the manure discharge and a drainage tile had been discovered which was discharging manure to an unnamed tributary of Bear Creek. All tiles which were discharging manure had been plugged by 11:30 am. An earthen dam was then constructed in Bear Creek in order to contain the manure-contaminated water in the stream and a pump used to remove the water.

Mr. Schilt next met with inspector Mark Fritz of the Ohio Department of Agriculture, Livestock Environmental Permitting Program (ODA-LEPP) and inspector Steve Thomson of the Ohio Department of Natural Resources, Division of Wildlife (ODNR-DOW). They surveyed the field which was used for the land

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

application of manure from Chesterfield Dairy. They discovered what appeared to be pooled manure water in several areas of the land application field. They also found a washout area on the east side of the field where it appeared that a hose may have been blown out and removed.

The inspectors soon met with you and questioned you about the incident. You informed them that the traveling gun irrigator being used for the land application of manure got stuck on the night of Wednesday, July 15, 2009. You stated that you did not discover that the traveling gun irrigator was stuck until approximately 6:00 am on Thursday, July 16, 2009. You stated that the applicator was then turned off. Mr. Schilt advised you to continue pumping out the unnamed tributary of Bear Creek until all impacted water had been removed.

Mr. Schilt collected several water quality samples during his response and investigation. Samples were collected from the tile discharge, upstream of the tile discharge, and downstream of the tile discharge. Results of the samples are displayed in Tables 1-3.

You have indicated that the manure that was applied came from your third stage lagoon, which one would expect to have relatively low nutrient values. The concentration of ammonia within the sample collected from the discharging field tile was 213 mg/L. While the water quality standard for ammonia depends on temperature and pH, it is never higher than 13 mg/L. Any ammonia concentration above 13 mg/L is considered to be acutely toxic to aquatic wildlife.

A photograph comparing clean water from Bear Creek and manure-contaminated water from the discharging field tile is shown in Figure 1. The manure-contaminated water displays visual characteristics of a septic liquid material. The dark color of the manure seems to indicate that your manure treatment and storage structures may not have been maintained properly and that the manure within the third stage lagoon may have become septic

Table 1. Water quality sample collected from tile discharge

Parameter	Result	Units
BOD <sub>5</sub>	1100	mg/L
Total Suspended Solids	256	mg/L
Ammonia	213	mg/L
Total Kjeldahl Nitrogen	222	mg/L

Table 2. Water quality sample collected downstream of the tile discharge

Parameter	Result	Units
BOD <sub>5</sub>	610	mg/L
Total Suspended Solids	128	mg/L
Ammonia	68.8	mg/L
Total Kjeldahl Nitrogen	76.6	mg/L

Table 3. Water quality sample collected upstream of the tile discharge

Parameter	Result	Units
BOD <sub>5</sub>	<2.0	mg/L
Total Suspended Solids	<5	mg/L
Ammonia	<0.050	mg/L
Total Kjeldahl Nitrogen	0.97	mg/L

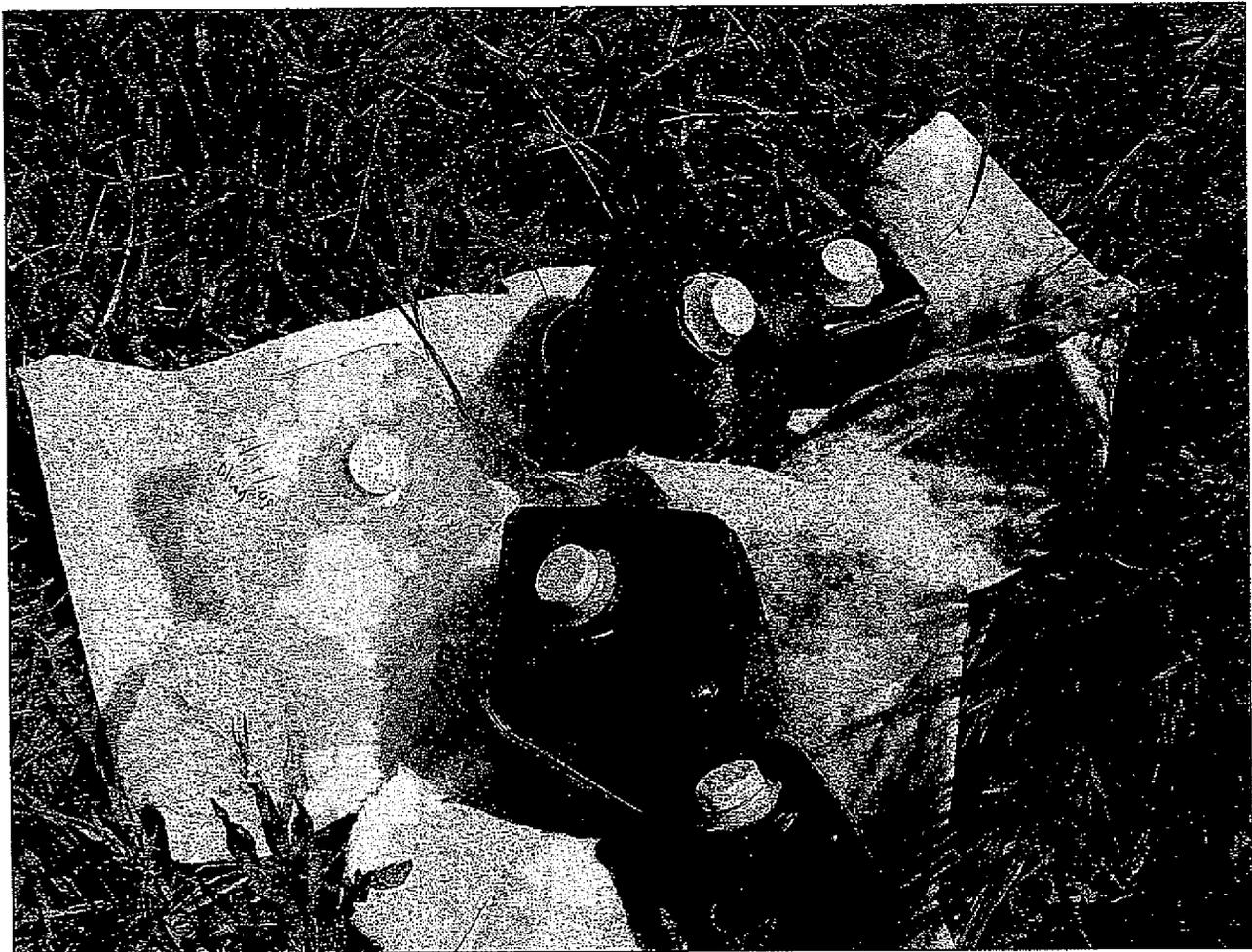


Figure 1. Clean water from Bear Creek and manure-contaminated water from tile

ODNR-DOW conducted an investigation into the fish kill caused by the manure release from Chesterfield Dairy. A total of 1,181 fish and 7,226 other animals were discovered to have been killed due to the manure release. The fish and other animals had a total reported value of \$1,969.71.

### **VIOLATIONS**

Due to the unpermitted dry weather discharge of manure to waters of the State, Chesterfield Dairy has violated the following conditions of its NPDES permit:

**Part I,A,1,a.** Beginning on the effective date of this permit, there shall be no discharge of manure pollutants from the production area to waters of the State. The production area shall be properly designed, constructed, operated, and maintained to contain manure, direct precipitation, and the runoff from a 100-year, 24-hour storm event and the production area shall be operated in compliance with the additional measures and records required in Part II and Part VII.

**Part I,A,1,b.** Dry weather discharges of manure are prohibited from production and land application areas.

**Part I,A,2,b.** There shall be no discharge to waters of the State during the process of applying manure to land.

**Part I,A,2,c.** There shall be no discharge of pollutants to waters of the State from land applied manure except for discharges that are composed of storm water runoff and/or snow melt runoff originating from a land area where manure from a CAFO has been applied in compliance with the manure management plan and this permit.

**Part II,B.** The discharge of manure or other wastes to waters of the State as defined in ORC 6111.01 and which include surface waters, wetlands (not included constructed treatment wetlands), and ditches is prohibited except in compliance with this permit.

**Part II,G.** The permittee shall be responsible for proper operation and maintenance of the manure storage, treatment, or disposal system.

**Part II,L.** The manure handling equipment shall be effectively maintained and operated at all times so that there is no discharge to waters of the State, except in compliance with Part I, A. In the event that the equipment fails to perform satisfactorily, including the creation of nuisance conditions or failure of an application area to adequately assimilate the manure, the permittee shall take immediate corrective actions including those actions that may be required by

Ohio EPA, such as the acquisition of equipment capable of properly applying manure in the proper approved amounts in accordance with this permit.

**Part VII. Production Area Requirements.** Inspect land application fields. In accordance with MMP. Date and signs of discharge or runoff into surface waters and/or conduits to surface waters of the State.

**Part VII, A, 4, c, iv.** The application rate shall not exceed the available water capacity in the upper eight inches of the soil for both subsurface and nonsubsurface drained sites

**Part VII, A, 4, c, v.** The application rate shall be adjusted to preclude surface ponding and/or runoff from a land application site. See Part VII, B, 2.

**Part VII, B, 2, a.** Prior to land applying manure, the permittee shall inspect the land application area to determine the suitability of the site for land application (considerations shall include tile location and depth, soil type, evidence of soil cracking, available water capacity of the soil, crop maturity, prior precipitation, forecasted precipitation, etc.) and document field conditions at the time of the inspection. See Part VII, A, 5. Broken tiles or blow out holes shall be repaired prior to land application.

**Part VII, B, 2, d.** Land application of manure shall not cause ponding or runoff. For liquid manure applications, the land application shall not exceed the available water capacity in the upper eight inches of the soil in the application field.

**Part VII, B, 3.** For land application sites with subsurface tile drainage, the permittee shall visually monitor all field tile outlets before, during and after application of manure to the site and record the results of that monitoring. The permittee shall have access to or methods/devices to stop or capture subsurface drain flow. If manure reaches the subsurface drain outlet to waters of the State, the application of manure shall cease and the flow stopped or captured. If land application has caused manure laden water to be discharged from a field tile, Ohio EPA shall be notified by calling 1-800-282-9378 as soon as possible, but in no case later than 24 hours following first knowledge of the occurrence. See Part I, A, 2, d.

**Part VII, B, 4.** For the land application of liquid manure to sites with subsurface tile drainage, the following criteria must be followed:

- a. Application rates shall be less than or equal to half an inch or thirteen thousand gallons per acre per application event;
- b. A tool shall be used that can disrupt and/or close the preferential flow paths in the soil using horizontal fracturing, or the surface of the soil shall be tilled three to

five inches deep to a seedbed condition to soak up the liquid manure and keep it out of preferential flow channels;

**Part VII,B,6.** The permittee is responsible for complying with this permit for land application activities conducted on each site where the permittee, or anyone employed by the permittee, owns, operates, or land applies manure generated from the CAFO or determines timing and amount of manure to be applied on fields not otherwise owned, rented, or leased by the CAFO.

Other violations:

**Ohio Revised Code (ORC) 6111.04**

(A) Both of the following apply except as otherwise provided in division (A) or (F) of this section:

(1) No person shall cause pollution or place or cause to be placed any sewage, sludge, sludge materials, industrial waste, or other wastes in a location where they cause pollution of any waters of the state.

(2) Such an action prohibited under division (A)(1) of this section is hereby declared to be a public nuisance.

**Ohio Administrative Code (OAC) 3745-1-04 Criteria applicable to all waters.**

The following general water quality criteria shall apply to all surface waters of the state including mixing zones. To every extent practical and possible as determined by the director, these waters shall be:

(A) Free from suspended solids or other substances that enter the waters as a result of human activity and that will settle to form putrescent or otherwise objectionable sludge deposits, or that will adversely affect aquatic life;

(B) Free from floating debris, oil, scum and other floating materials entering the waters as a result of human activity in amounts sufficient to be unsightly or cause degradation;

(C) Free from materials entering the waters as a result of human activity producing color, odor or other conditions in such a degree as to create a nuisance;

(D) Free from substances entering the waters as a result of human activity in concentrations that are toxic or harmful to human, animal or aquatic life and/or are rapidly lethal in the mixing zone;

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Please remember that you are responsible for complying with your NPDES permit, ODA permit, and Ohio's water pollution control laws. You should be making every effort to complete the work already requested of you, and to develop strategies to ensure that incidents such as this do not happen again.

This Notice of Violation does not preclude Ohio EPA or any other state or federal agency from seeking civil penalties or criminal charges against Chesterfield Dairy. If there is any statement in this letter which you believe is in error, please advise us in writing within 14 days.

Should you have any questions or concerns, feel free to contact me at 614-644-2021 or at [cathy.alexander@epa.state.oh.us](mailto:cathy.alexander@epa.state.oh.us).

Sincerely,



Cathy Alexander, Supervisor  
PTI, Compliance Assistance, & CAFO Unit  
Division of Surface Water

cc: Kevin Elder, ODA-LEPP  
Cheryl Burdett, US EPA – Region V  
Steve Jann, US EPA – Region V  
Bill Palmer, Ohio EPA – SIU  
Dave Schilt, Ohio EPA – DERR  
Paul Kurfis, ODNR – DOW