



State of Ohio Environmental Protection Agency

Southeast District Office

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Bob Taft, Governor
Christopher Jones, Director

July 8, 2002

Mr. Andrew S. Hartten, Project Director
DuPont Engineering
Barley Mill Plaza - Bldg. 27
Lancaster Pike & Rte. 141
Wilmington, DE 19805

Re: Response to Comments and Revised Proposed Sampling Investigation Plan for
Little Hocking Water Association Well Field, Washington County, Ohio June 2002.

Dear Mr. Hartten:

Thank you for your response to Ohio Environmental Protection Agency's and Little Hocking Water Association's comments on the proposed Sampling Investigation Plan for Little Hocking Water Association's Well Field. Ohio EPA received your response to comments and revised plan on June 11, 2002. The revised plan outlines DuPont's technical approach to determine the horizontal and vertical extent of C-8 in ground water and soil in the vicinity of test well TW-4.

The Ohio EPA, Division of Drinking and Ground Waters has completed a review of the response to comments and the revised proposed plan. In addition, the Little Hocking Water Association, Inc. and their consultants, Bennett & Williams Environmental Consultants, Inc. have reviewed the plan. Ohio EPA agrees with the proposed number of borings and their locations, and the proposed method to collect soil and ground water samples. However, Ohio EPA believes that additional samples should be collected and analyzed to more thoroughly evaluate the vertical extent and concentration of C-8 at the two proposed locations where both soil and ground water will be sampled. Please see the following two comments:

1. DuPont proposes to collect soil samples from two borings in the vicinity of TW-4 at the following depths:
 - at the surface
 - at the first encountered water (approximately 17 to 20 feet below grade)
 - at the top of the sand and gravel aquifer (estimated at 30 to 35 feet below grade)
 - at the bottom of the sand and gravel aquifer (estimated at 50 to 55 feet below grade)

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The Ohio EPA agrees with these sample depths, however, the Ohio EPA believes additional samples are necessary to adequately characterize the vertical distribution of C-8 from the surface to the approximate top of the sand and gravel aquifer. This data will assist in evaluating the air to soil to ground water route of travel and the potential leaching of C-8 from the fine grain alluvial soils. Soil samples should be collected at five foot intervals from the ground surface to the top of the sand and gravel aquifer. (i.e. approximate depths to be sampled include (5, 10, 15, and 25 feet below the surface at the two selected locations). This will add about 8 additional soil samples for analysis.

In addition, Ohio EPA request that DuPont collect soil samples at the remaining five foot interval depths from the two selected borings and retain these for possible future analysis. The decision to analyze these samples would be based on the corresponding water sample results. We recommend language be incorporated into the Work Plan whereby either DuPont independently could analyze these soil samples or the samples could be analyzed if requested by Ohio EPA.

2. At the two locations where soil is to be sampled, the Work Plan proposes to collect ground water samples at the following depths:
 - at the first encountered water (approximately 17 to 20 feet below grade)
 - at the top of the sand and gravel aquifer (estimated at 30 to 35 feet below grade)
 - at the bottom of the sand and gravel aquifer (estimated at 50 to 55 feet below grade).

In order to evaluate the surface water to ground water and the ground water flow pathways, the Ohio EPA request that DuPont collect ground water samples at these two locations from the first encountered water to the bottom of the sand and gravel aquifer at five foot intervals. This will allow for evaluation of potential differences in concentration along different flow lines within the aquifer.

Recommendation

3. In addition to the indirect measurements of river stage height proposed in the Work Plan, a direct measurement of river elevation should be collected at Kraton Polymers. Jim Thrall, Senior Environmental Engineer with Kraton, indicated to Ohio EPA that a measuring point for river elevation is located on the Kraton property and with permission, DuPont can access this point. Please contact Jim, in advance, at (740) 423-2278.

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Both Ohio EPA and the Little Hocking Water Association would like the investigation to begin as soon as possible, therefore, if necessary, soil samples should be retained until the laboratory is able to analyze the samples. Ohio EPA will approve the proposed Sampling Investigation Plan provided Ohio EPA and DuPont agree on the number of samples to be collected to vertically profile C-8.

If you have any questions, concerning the above comments, please contact me.

Sincerely,

Steven E. Williams

Steven E. Williams
Hydrogeologist

Cc: Mike Preston, Ohio EPA, DDAGW, SEDO
Sarah Wallace, Ohio EPA, DDAGW, SEDO
Mr. Robert L. Griffin, P.E. Little Hocking Water Association
Ms. Linda Aller, Bennett & Williams
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