



State of Ohio Environmental Protection Agency

**STREET ADDRESS**

Lazarus Government Center  
122 S. Front Street  
Columbus, OH 43215-1099

TELE: (614)644-3020 FAX: (614) 644-2329

**MAILING ADDRESS**

P.O.Box 1049  
Columbus, OH 43216-1049

OCT 23 2002  
Mohammed Ali  
c/o Waste Management, Inc.  
7916 Chapel Street SE  
Waynesburg, OH 44688

OHIO E.P.A.  
OCT 23 2002  
ENTERED DIRECTOR'S JOURNAL

**RE: Mahoning Landfill, Mahoning County  
Ohio Administrative Code (OAC) Rule 3745-27-10(D)(7)(c) Authorization**

Dear Mr. Ali:

On July 12, 2002, Waste Management, Inc. (WMI) notified the Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO) of a statistically significant concentration of ammonia (1.45 mg/L) in the verification sample collected from MKS-3 for the first 2002 semiannual sampling event. Accompanying the notification was a request to continue detection monitoring. The request was submitted in accordance with OAC Rule 3745-27-10(D)(7)(c), and provides WMI's demonstration that the statistically significant concentration of ammonia detected in MKS-3 was not caused by the landfill.

Specifically, WMI provides the following information:

1. Low-flow sampling was implemented for MKS-3 during the first 2002 semiannual sampling event, which resulted in the volume of purge water being reduced from approximately 100 gallons to less than one gallon. Ohio EPA agrees that statistically significant ammonia concentration was likely caused by the change in sampling method, and particularly by the significant reduction in purge volume.
2. MKS-3 is a sidegradient well located approximately 300 feet east of the easternmost ground water flow line that passes through the permitted limits of waste. Therefore, the statistically significant ammonia concentration is probably not indicative of leachate-impacted ground water considering MKS-3's position relative to the limits of waste and the direction of ground water flow.
3. Piper and Stiff diagrams comparing the MKS-3 ground water quality and leachate quality between 1999 and 2002 appear to indicate that the MKS-3 ground water quality has not been affected by a leachate release from the landfill. When considered in conjunction with the other evidence, the Piper and Stiff diagram analyses support the alternate source demonstration. With respect to potential future alternate source demonstrations, however, Ohio EPA cautions the owner/operator that evaluation of major ion ground water chemistry using Piper and Stiff diagrams, in and of itself, will not necessarily demonstrate that ground water quality has not been effected by a leachate or landfill gas release. In many cases,

Bob Taft, Governor  
Maureen O'Connor, Lieutenant Governor  
Christopher Jones, Director

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especially during the early stages of a release or near the leading edge of a contamination plume, ground water quality impacts may be limited to statistically significant increases in one or two parameters without any readily apparent changes in major ion ground water chemistry, e.g., the detection of a non-naturally occurring volatile organic compound and/or a statistically significant ammonia concentration.

**OAC Rule 3745-27-10(D)(7)(c)** states, *“The owner or operator may demonstrate that a source other than the sanitary landfill facility caused the contamination, or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in ground water quality. A report documenting this demonstration must be submitted to and approved by the director or his authorized representative. If the owner or operator does not obtain approval to continue detection monitoring within one hundred and five days from notifying the director in accordance with (D)(7)(b) that a Significant increase has occurred, the owner or operator shall initiate an assessment monitoring program as required by paragraph (E) of this rule..”*

Based on the information presented above and contained in the July 11, 2002 request, Ohio EPA has determined that the owner/operator has sufficiently demonstrated, in accordance with OAC Rule 3745-27-10(D)(7)(c), that the statistically significant difference for ammonia identified in MKS-3 during the first 2002 semiannual sampling event at Mahoning Landfill was caused by the change in sampling method and is also not indicative of leachate-impacted water. Therefore, Ohio EPA has determined that the WMI may continue detection monitoring at MKS-3.

Should future or existing ground water sampling results indicate statistically significant differences in ground water monitoring parameters, WMI will be required to either commence assessment monitoring in accordance with OAC 3745-27-10(E) or obtain approval to remain in the detection monitoring program. Ohio EPA recommends that WMI closely monitor future ammonia concentrations in MKS-3 and evaluate whether or not this statistically significant concentration is an outlier that should be removed from the background database. Ohio EPA also recommends that the WMI update the statistical background data sets for all parameters at all wells as soon as possible, as the MKS-3 demonstration for ammonia suggests that variations in ground water analytical results may be due in part to the change in ground water sampling technique.

Nothing in this letter shall be construed to authorize any waiver from the requirements of any applicable state or federal laws or regulations. This letter shall not be interpreted to release the owner/operator from responsibility under Chapters 3704, 3714, 3734, or 6111 of the Ohio Revised Code or under the Federal Clean Water Act or Comprehensive Environmental Response, Compensation, and Liability Act for remedying conditions resulting from any release of contaminants to the environment.

Mohammed Ali  
c/o Waste Management, Inc.

You are hereby notified that this action of the Director of Environmental Protection is final and may be appealed to the Environmental Review Appeals Commission pursuant to Ohio Revised Code Section 3745.04. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the commission within 30 days after notice of the director's action. Notice of the filing of the appeal shall be filed with the director within three days after the appeal is filed with the commission. An appeal may be filed with the commission at the following address:

Environmental Review Appeals Commission  
236 East Town Street  
Room 300  
Columbus, Ohio 43215

If you have any questions concerning this letter, please contact Katharina Snyder, Ohio EPA, Northeast District Office at (330) 963-1257.

Sincerely,



William Skowronski,  
District Chief, Northeast District Office  
for Christopher Jones, Director

WS/CJ/KS/cl

cc: Scott Hester, DSIWM-CO  
Eric Adams, DSIWM-NED0  
Katharina Snyder, DSIWM-NED0  
Christine Frankford, Mahoning County Health Department  
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