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Transmitted by email:
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December 1, 2009

Ms. Christine Ritter
Hydrogeologist, Permitting Branch
North Carolina Department of Environment and Natural Resources
Solid Waste Section
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

Subject: Response to November 6, 2009 Landfill Gas Monitoring Plan Letter
Proposed Landfill Gas Monitoring Probe Locations
Closed International Paper Company Landfill 5
Permit #44-01, Canton, North Carolina

Dear Ms. Ritter,

On behalf of International Paper Company (IP), Altamont Environmental, Inc. (Altamont) appreciates the Solid Waste Section (SWS) providing insight as to its updating of landfill gas monitoring systems guidance, and its recommendations related to implementation of landfill gas monitoring programs at solid waste management facilities. IP and Altamont are committed to implementing measures at the landfill that protect human health and safety.

We respectfully request that the SWS consider that the ongoing investigation related to the existence of landfill gas and landfill gas monitoring at Landfill 5 is in an assessment phase. Based on an investigation plan submitted to and approved by the SWS on August 17, 2009, 13 landfill gas probes were installed in covered landfill waste during the week of September 9, 2009. These probes were installed to determine if the waste buried at the site is actively producing explosive gas. Additionally, two temporary landfill gas probes were installed in an area outside of landfill waste, at the location proposed for the Western North Carolina Regional Livestock Center (WNCRLC) auction building. These probes were installed to determine if landfill gas exists outside of buried waste at that location. Therefore, 15 landfill gas probes currently exist at the site. A letter report submitted to the SWS on September 23, 2009 provided data from two monitoring events that took place shortly after the 15 gas probes were installed. The letter provided landfill gas data from the 15 probes and 39 ambient locations that were sampled and screened for methane.

Proposed landfill gas probe locations that are indicated on the impromptu map sent to Mr. Gaither on November 5, 2009 and referenced in your November 6, 2009 letter, were intended for discussion purposes before requesting official written permission from the SWS to install additional probes at the landfill's boundary. The location and installation of the probes was not meant to represent the entire extent of landfill gas monitoring at the landfill boundary. These probes were proposed only as the next step in the assessment

phase and their locations were based on the proximity of the nearest off-site structures to the landfill property boundary and waste.

We understand that the SWS is updating landfill gas guidance and regulation in an effort to standardize guidance, regulation, and compliance. We also understand that current landfill gas guidance for industrial waste landfills is sparse, and furthermore that IP is one of the first landfill owners subject to new guidance and regulation that is yet to be finalized.

IP is taking a proactive approach to assessment and monitoring of landfill gas at this site. We remain hopeful that the SWS will continue to evaluate Landfill 5 on a site-specific basis within reason. Not all guidance and recommendations specified in your November 6, 2009 letter can be followed at Landfill 5 due to site-specific conditions. Responses to SWS recommendations are listed below:

1. "The NC Solid Waste Section recommends that landfill gas monitoring probes at unlined landfills be installed around the perimeter of the entire landfill at 500-foot intervals."

   If probes were installed at the property boundary at Landfill 5 at 500-foot intervals, that would result in the installation of approximately 28 additional probes. Altamont and IP believe that this number of probes is excessive and would be a poor use of resources, based on consideration given to the fact that much of the landfill perimeter is bordered by:

   - US Interstate 40
   - 100-year floodplain
   - State roads
   - Steep slopes

   All of these conditions force construction of structures capable of entrapping landfill gas further from the landfill and reduce the risk for nearby inhabitable structures to be impacted by landfill gas. Furthermore, in many areas, the property boundary of the landfill is located at such a distance and upslope from landfill waste that migration of gas to structures beyond that boundary is unlikely.

2. "The recommended point of compliance for the location of the landfill gas monitoring probes is no more than 250 feet from a waste boundary and at least 50 feet within the property boundary."

   Due to the age of Landfill 5, regulations that were apparently in place at the time the landfill was constructed, and the proximity of waste and off-site structures to property boundaries (particularly in the Landfill 5B area at the northwest corner of the site), placement of compliance landfill gas probes installed outside areas of covered waste as described in the SWS guidance above is not possible.

Based on the site conditions described in this letter, Altamont and IP request that we be allowed to install a minimum of four additional landfill gas probes in the locations specified in the attached Figure 1 as the next phase of work.

If members of SWS staff are interested in viewing these proposed locations on the ground, a representative of Altamont will be happy to meet with you on-site. An updated map is provided with this letter for your reference.

Altamont and IP appreciate your time and consideration for this project. Please feel free to call me or respond to this letter with any questions or comments.

Sincerely,

ALTAMONT ENVIRONMENTAL, INC.

Joel D. Lenk, P.G.

Enclosures: Figure 1—Existing and Proposed Landfill Gas Probes and Ambient Screening Locations

cc: Tom Richardson, International Paper Company
Allen Gaither, SWS Asheville Regional Office
Andrea Keller, SWS Asheville Regional Office

Legend

- Proposed Landfill Gas Probes
- Existing Landfill Gas Probes
- Ambient Landfill Gas Screening Locations
- Approximate Locations of Proposed WNCRLC Buildings
- Property Boundary
- Haywood County Hydrology

SOURCE:

Color Orthophotograph - NCDA Haywood County 2008
Property Boundary - Haywood County GIS 2009
Hydrology - Haywood County GIS

REV	DATE	DESCRIPTION	BY	CHK	APV

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DRAWN BY: Anna Saylor
PROJECT MANAGER: Joel Lenk
CLIENT: International Paper Co.
DATE: 11/18/2009

SCALE
0 75 150 300 Feet

Existing and Proposed Landfill Gas Probes and Ambient Screening Locations

Landfill 5 (44-01)
Closed International Paper Landfill
Canton, North Carolina

FIGURE
1

P:\IP\LF 5\Landfill Gas Investigation\Figures\Fig 1-Existing and Proposed LFG locations.mxd