

# Hanover

Engineering Associates Inc

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February 17, 2016

Ms. Leslie Huhn, Acting Manager  
Lower Saucon Township  
3700 Old Philadelphia Pike  
Bethlehem, PA 18015-5426

RE: Incident at IESI Bethlehem Landfill Involving  
Landfill Flare on February 16, 2016  
Hanover Project LS90-07

Dear Ms. Huhn:

At the request of Ms. Priscilla deLeon, Township Council Member and Liaison to the Township Landfill Committee, Hanover Engineering Associates, Inc. is providing this report of the above-referenced incident. This report is based upon information known to us at this time, as gathered during our interview with the IESI District Manager, Mr. Allen Schleyer, and during our inspection of the facility, both conducted on February 16, 2016. Additional or amendatory information may subsequently be made available to this office, and if so may require that this report be revised accordingly.

At approximately 11:10AM on February 16, 2016, I received an e-mail from Mr. Chris Garges, Zoning Officer, forwarding an e-mail from Police Chief Lesser which stated that a Township Police Officer had been dispatched to Ringhoffer Road to investigate resident's reports of their windows shaking. The e-mail further stated that the residents contacted the landfill and were told that the landfill was aware of the issue and were working on it. Upon reading the e-mail, I called Mr. Schleyer's cell phone to ask for a status report. Mr. Schleyer answered, but the connection was very poor because he was out in the wind storm attending to the issue in question, and he stated that he would have to call me back. I then called Ms. Jessica Wagoner, Department of Environmental Protection Solid Waste Specialist, and left her a detailed voicemail asking her to go the landfill to assess the situation and provide me with a verbal report of her findings. I advised the Township of these contacts, and asked if I was directed to go out to the landfill. I then travelled to the Township Office for the previously-scheduled quarterly Technical Consultant Committee Meeting.

At the Township Office, I advised the Committee of the unfolding situation. Ms. deLeon instructed me to immediately leave for the landfill to assess the situation and report back to the Committee. I arrived at the landfill at approximately 1:40PM, and observed no obvious signs of a problem. There were no odors, unusual sounds, or smoke, observable from the parking lot. I signed in at the office, and requested to meet with Mr. Schleyer, who was up on the landfill at the time. The secretary contacted him, and he returned to the office at approximately 2:00PM to meet with me. I first asked if he and his workers were alright, to which he replied "yes". I then asked if there was any immediate danger to the general public, to which he replied "no". He stated that he had e-mailed Dean Fisher, Department of Environmental Protection, about this incident. I asked if he had informed the Lower Saucon Police Department that there was no danger, so that they could relay that news to the concerned residents who had been affected. He stated that he had informed the responding officer of this, and that the officer was going to inform the residents.

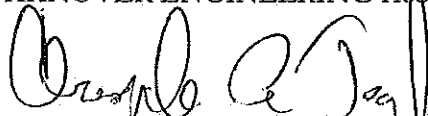
I then asked for an explanation of the incident. He stated that the high winds had caused the synthetic material that had been placed on the south slope for temporary capping to lift, or "balloon up" in places. All of the gas wells sticking up through the cap are "booted", or attached, to create a gas-tight seal. The lifting force was strong enough to pull the tops off of three (3) of the wells, all in the same area. The wells are under a vacuum to collect landfill gas and send it to the landfill flare for burning. Once the well tops were dislodged, the wells were open to the atmosphere, and the vacuum caused ambient air to be drawn into the gas collection system. When the flow containing this air began reaching the flare, it disrupted the flare's normal operation. The addition of ambient air to the landfill gas created a "leaner" fuel mixture than usual, which caused the flare's burning temperature to drop. In response, the flare's automatic louver system sharply throttled back the air intake at the flare itself which is used to regulate the burning temperature, attempting to stabilize the temperature. The flare continued to run and did not "trip" off line, thanks to the automatic louver adjustments. Mr. Schleyer ordered IESI's air quality consultant, Blue Flame Crew, to "throttle back" the flare, then had his workers repair the open wells and begin placing sand bags on the liner to weight it down and prevent further lifting. Mr. Schleyer theorized that the sound generated by the flare may have come from the initial, sudden closing of the louvers. He stated that later, when he was at the flare talking with Blue Flame Crew, it was making some unusual "whooshing" sounds, but these were not even loud enough to drown out their conversation.

Following the interview in the office, I requested that Mr. Schleyer take me to the flare. I observed that the flare was running, and that the instrumentation readout indicated that the flare was burning landfill gas at a rate of 3140 standard cubic feet per minute (scfm) and a temperature of 1,658 degrees Fahrenheit. These values are typical of readings recorded during recent inspections. I then requested to see the affected wells (please see the attached photographs). I observed that the gas collection piping had been reattached to all three (3) of the wells, and that the synthetic cap material had been cut around the wells. Mr. Schleyer said that was necessary to get the cap material back in place on the ground. I observed that sand bags had been placed around the wells, and other places on the cap, to prevent further ballooning. I observed a crew continuing to fill sand bags. Mr. Schleyer stated that they would continue to place bags on the cap to weight it down. Following these observations, we returned to the parking area, and I left the facility at approximately 3:30PM.

If you have any comments or questions, please do not hesitate to call me immediately.

Respectfully,

HANOVER ENGINEERING ASSOCIATES, INC.



Christopher A. Taylor, PG, HMI  
Host Municipality Inspector

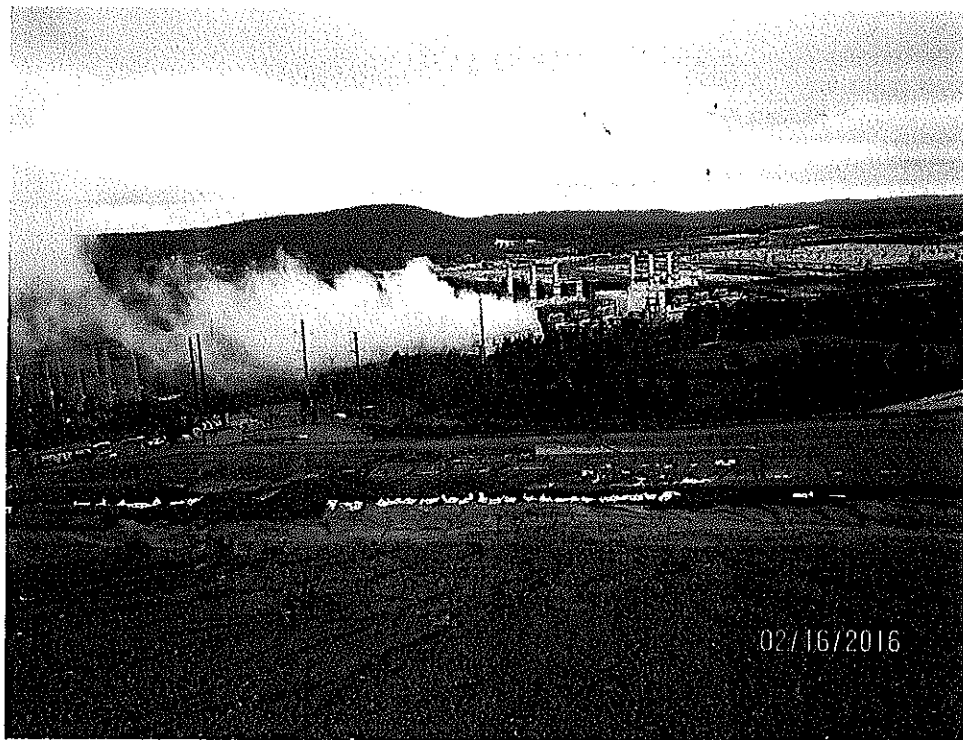
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Enclosure(s)



1. From office parking lot, looking northwest toward area of temporary capping affected by wind (note areas of cap "blown up" on right side of photo).



2. From top of landfill, looking south across area of temporary cap. Note sandbags in place to weigh cap down.



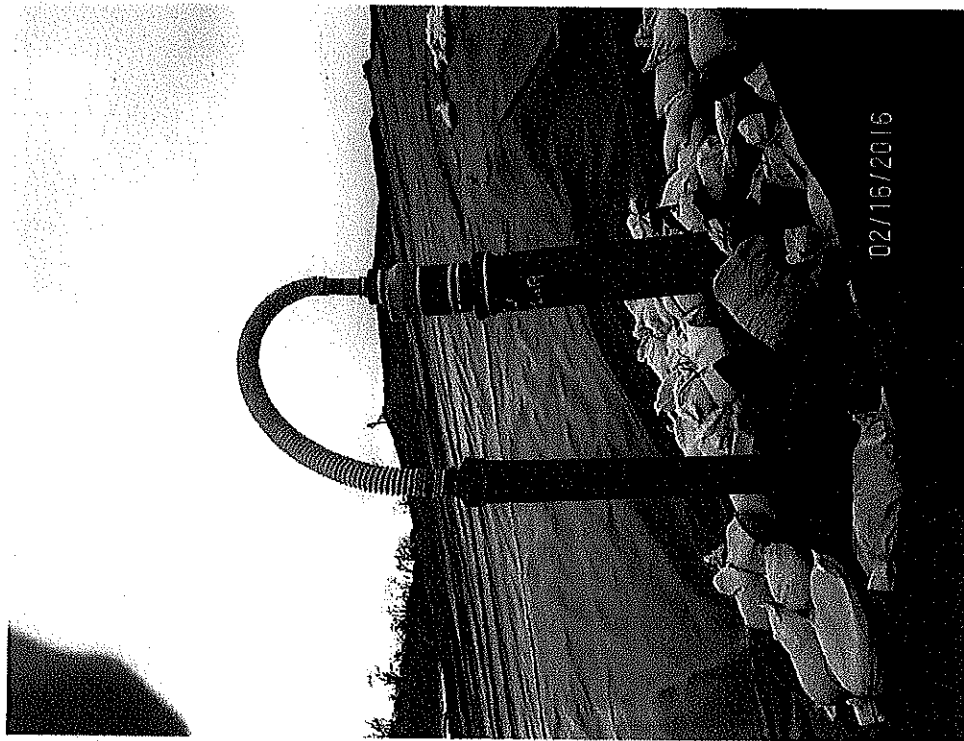
3. View of one (1) of the affected wells, showing that vacuum line has been reattached, liner has been cut, and sandbags have been placed.



4. View of other two (2) affected wells, showing that vacuum lines have been reattached, liner has been cut, and sand bags have been placed. View is looking west (note LSA water tank in background).



5. Additional view of affected wells.



6. Additional view of affected well.