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# EPA Holding Public Meetings on Mallard Lake Landfill Cleanup

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## Mallard Lake Landfill Site

Hanover Park, Illinois

January 2010

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### You are invited

EPA will be hosting two public meetings to update residents about previous work and future plans concerning underground methane discovered near the Mallard Lake Landfill. At the meetings, EPA's project manager will give a presentation. This will be followed by a question-and-answer session. The presentation will be the same at both meetings. We hope you will be able to attend one of them.

**Date:** Wednesday, Jan. 27

**Times:** 2:30 p.m. and 6:30 p.m.

**Place:** Hanover Park Village Hall  
Council Chambers  
2121 W. Lake St.  
Hanover Park

### Information repositories

You may review site documents at:

Sonya Crawshaw Branch  
Poplar Creek Public Library  
District  
4300 Audrey Lane  
Hanover Park

Poplar Creek Public Library  
Main Library  
1405 S. Park Ave.  
Streamwood

### Check out these Web sites:

[www.epa.gov/region5/sites/mallard](http://www.epa.gov/region5/sites/mallard)

[www.epaosc.net/mallardlake](http://www.epaosc.net/mallardlake)

[www.epaosc.net/MallardNorth](http://www.epaosc.net/MallardNorth)

[www.atsdr.cdc.gov](http://www.atsdr.cdc.gov)

Much work has been done to address problems at the Mallard Lake landfill and cleanup work off the landfill property is nearing completion. Many improvements have been made to the facility itself and the amount of underground methane that previously escaped from the landfill property has been greatly reduced. So far, more than 1.4 million cubic feet of underground methane has been removed. Cleanup work at the site is being done by BFI Waste Systems, the operator of the facility, and the Forest Preserve District of DuPage County, owner of the landfill property, as the result of a legal agreement with U.S. Environmental Protection Agency and Illinois EPA.

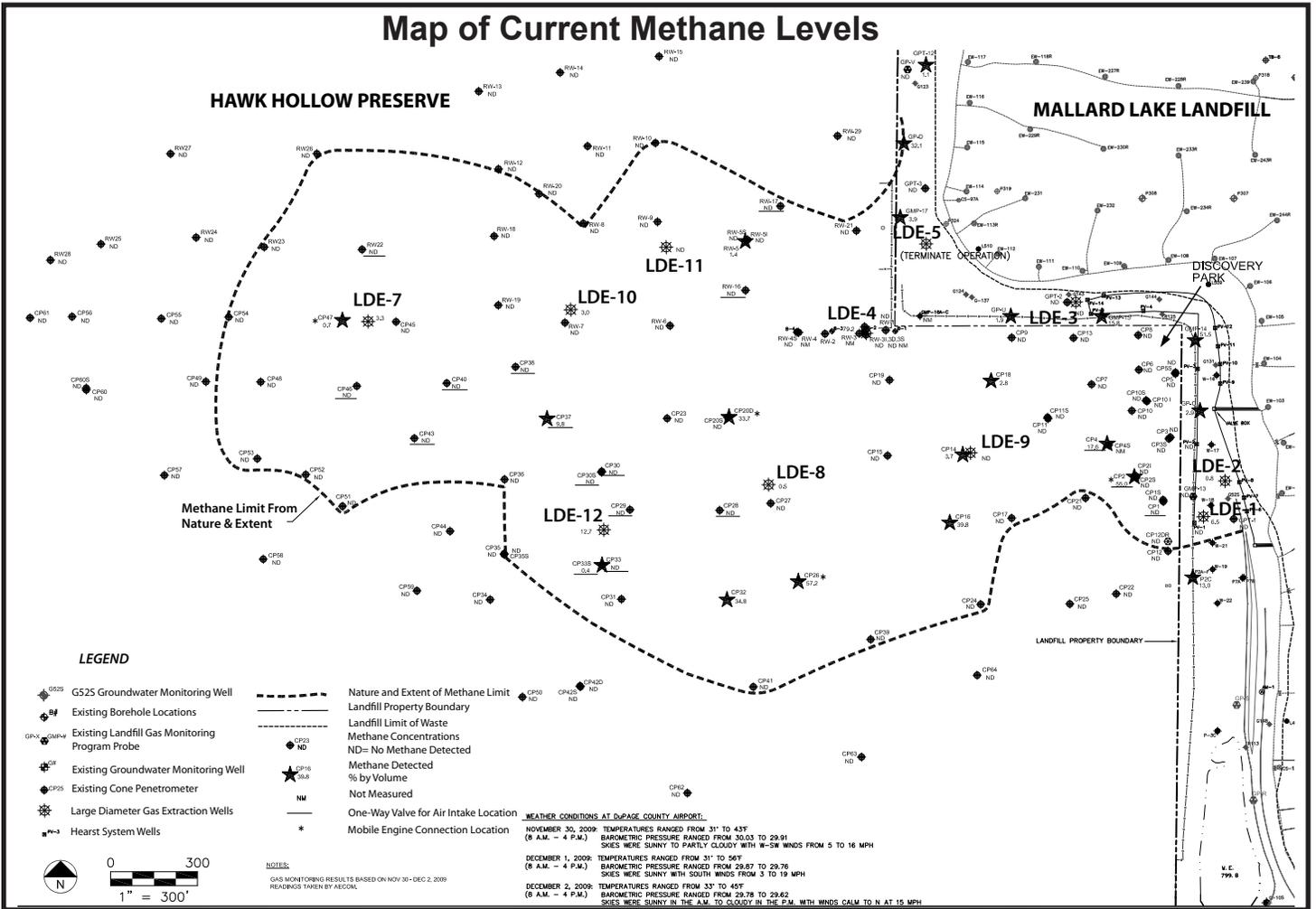
Comprehensive testing has determined that the underground methane that escaped from the landfill property is sealed under a layer of clay in a sand seam 25 to 40 feet below the surface. Also, extensive testing showed that methane has not been detected in any homes, above ground or in shallow soil. Most of the underground methane that moved off the landfill property has, or will be, removed. Some pockets of underground methane likely will remain because non-permeable clay formations below ground make gas in these pockets difficult to remove. However, these areas will be continuously monitored (see "comprehensive monitoring plan" on page 3).

In fall 2007, as part of the initial response to the problem of underground methane escaping from the landfill property, six large-diameter-extraction, or LDE, wells were installed along the perimeter of the landfill property in an effort to keep methane from moving underground into nearby residential neighborhoods and open areas. These LDE wells were piped into the landfill's existing gas removal system. Most of the methane removed by this system is used to produce energy at a plant operated by a private company located on the landfill property.

### Work west of the landfill

Later, after locations were determined by an extensive investigation, seven additional LDE wells were installed in residential neighborhoods and open areas west of the landfill. However, because these wells are not close to the landfill, mobile thermal oxidizing units are being used to destroy methane removed from these wells. Four of these LDE wells are located in residential areas and three in Hawk Hollow Forest Preserve. Methane levels at almost all of these wells have been reduced by 50 percent, indicating that this method of methane removal is working well. In fact, methane removal from two of these wells has been stopped because methane is no longer being detected. Also, it is anticipated most of the other LDE wells will soon stop collecting enough methane to justify using the mobile oxidizers. These units will continue to operate for awhile during daytime hours at locations where methane can still be removed using this method. However, more passive and energy-efficient technologies are being explored to replace the mobile oxidizing units at these locations.

# Map of Current Methane Levels



In addition to the LDE wells, 113 probes were installed west of the landfill to monitor the location and levels of the underground methane. Some of these probes will be retained and monitored to keep track of any remaining underground methane off the landfill property. Many others will be removed or abandoned because they are no longer necessary. However, if underground methane should be detected above permissible levels in the future, EPA and Illinois EPA will respond as necessary.

### In-home testing:

More than 250 homes near the landfill have been tested for methane in basements, along foundation slabs and in crawl spaces. Results of this sampling have shown that no methane from the landfill has been found in any of the homes. However, as a protective measure, combustible gas indicators were offered and installed in those 200+ homes accepting them.

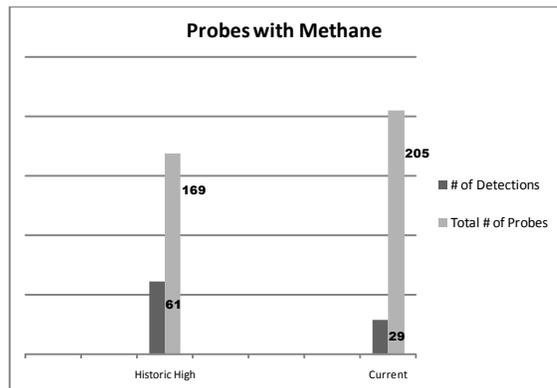
### In the neighborhood west of the landfill:

In the neighborhood west of the landfill, three extraction wells (LDE 4, LDE 8, and LDE 12) will continue to operate as long as they are removing methane. Methane from LDE 4 is being piped to the facility and used to create energy by a private company on the landfill property. Methane from LDE 8 and 12 is being destroyed

by thermal oxidizing units placed at the wells. Due to low underground methane levels, a mobile oxidizer at LDE 12 will operate only periodically as methane is detected and LDE 8 will run only during the day. The oxidizer at LDE 9 has been shut down because methane was no longer being detected.

### In Hawk Hollow:

In Hawk Hollow, two wells (LDE 7 and 10) will continue to remove methane. However, as mentioned, other more passive technologies are being explored to replace the



When underground methane was at its historic high, methane was detected in 61 of 169 monitoring probes. Currently, there are 205 probes and only 29 are detecting methane.

oxidizing units. As the methane levels drop, it is also more prudent to use a technology that has a lower carbon footprint. Methane removal at LDE 11 has been stopped because gas is no longer being detected.

## **South of the landfill**

Six extraction wells have been installed south of the landfill within the property boundaries, which are part of the on-site gas extraction system. Several of these are actively removing methane. Dozens of monitoring probes have been installed south of the landfill - six are south of Schick Road. These probes keep track of the methane in that direction and will continue to be sampled regularly.

## **Landfill improvements**

Much work has also been done within the landfill boundaries to remove methane and stop the methane from moving off of the landfill, including the following:

- Six large-diameter gas collection wells were installed on the landfill property in 2007. Methane from all of these wells is sent to a plant on site that creates energy, which is then sold to power companies. Methane is no longer present in two of these wells. In two others, the methane levels have dropped significantly with only periodic detections of very small amounts found. The remaining two are operating consistently. The operation of several of these wells will be evaluated after the installation of the “vacuum curtain” (see below) adjacent to them to make sure that they supplement the curtain and do not negatively impact its operation.
- Twenty-five new extraction wells were added outside the limits of the waste on the landfill property to further prevent any future methane movement and to remove methane. These wells have been installed and the piping is being laid. Full operation of the new wells is expected by mid-February. Nineteen of these new extraction wells were installed along the west side of the landfill. These wells will both remove methane and create a “vacuum curtain” that stops methane from moving off the landfill property. Three of these new extraction wells were installed along the east perimeter of the landfill and three were installed along the south perimeter.
- Substantial improvements have also been made to various other landfill systems, including the upcoming addition of a new blower system with a backup generator, two new enclosed flares, the addition of ten new extraction wells within the waste limits and the replacement of older extraction wells.
- About 227 on-site wellheads (that are within the limits of waste and are part of the active extraction system) were replaced with new, advanced technology and

controls. This allows the technicians to make more precise adjustments in the gas flow to maximize the amount of methane being removed. New pumps were installed in some extraction wells to reduce water levels, which helps in gas recovery within the limits of the waste.

- The landfill operation standards have been improved including procedures for daily and monthly inspections and rapid response to any needed repairs such as adjustments to wellhead heights, replacement of valves, replacement seals, cover soil replacement, etc.

## **Comprehensive monitoring plan**

An extensive monitoring plan is in place to keep track of any changes at the site. About 25 extraction points including probes where gas may be extracted are sampled every day. Every two weeks, about 15 more locations are sampled. In addition, all probes that have been installed as a result of this cleanup are sampled quarterly. This sampling plan is constantly adjusted based on the results of the gas extraction efforts. Finally, under the permit for the landfill, another 60 locations on the landfill are sampled monthly. If any combustible gas is detected above permissible levels, both EPA and Illinois EPA will be notified immediately.

## **Next steps**

The gas extraction wells off-site will continue to remove methane outside the landfill wherever possible and the monitoring effort will continue to keep track of the methane levels. The gas extraction system on the landfill, which is made up of 227 extraction wells, will continue to operate. The on-site vacuum curtain system, made up of 25 additional extraction wells, will be finalized within the next couple of months to assist with methane removal and keep methane from leaving the landfill’s property. In addition, regular on-site maintenance will continue and procedures will be updated, as necessary. Construction of the new blower system will begin in the first half of 2010.

## **Investigation northeast of the landfill**

In fall 2007, methane was discovered underground northeast of the landfill near Greenbrook Elementary School. Mallard North Landfill, an older landfill just north of the Mallard Lake Landfill site is being investigated by the Forest Preserve District of DuPage County. Methane found in one monitoring probe 16-21 feet underground near the school property is being extracted and burned off with a mobile thermal oxidizer. The methane now being detected at this location is a very small amount. Other, more passive technologies are being explored to remove any remaining methane. The school has been extensively tested and no methane has been detected. However, a combustible gas indicator has been installed as a precaution.

## For more information

For more information about the site, you may contact:

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**MALLARD LAKE LANDFILL SITE:  
EPA Holding Public Meetings on Mallard Lake Landfill Cleanup**

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