

METHANE FINDINGS AND PREVENTATIVE ACTIONS NEAR THE OLD SOUTHWINGTON LANDFILL

This fact sheet was developed by the CT Department of Public Health, in conjunction with the U.S. Environmental Protection Agency, CT Department of Environmental Protection, and the Southington Health Department to update residents near the Old Southington Landfill site about methane issues. For more information, please see the contacts on page 2.

BACKGROUND

The Old Southington Landfill is an 11-acre site that was used from 1920 until 1967 for disposal of household, commercial and industrial waste materials, as well as wood and construction debris. In 1967, the Town of Southington closed the landfill. The landfill was placed on the National Priorities List (NPL) or Superfund List in 1984. Investigation of the landfill was completed in late 1993 by the parties who disposed of the largest amounts of waste in the landfill. These parties (referred to as settling defendants, or SDs) include the Town of Southington and several large corporations.



Beginning in 1994, a number of important landfill cleanup activities occurred. These actions include covering the landfill with a cap, digging up some highly contaminated soils and placing them beneath the landfill cap, removing buildings on the landfill, putting in a system to collect and vent landfill gases, and conducting long-term monitoring of groundwater and soil gas. The landfill will continue to be reviewed every five years by the Environmental Protection Agency (EPA) and the CT Department of Environmental Protection (CTDEP) to evaluate whether the cap, landfill gas collection/treatment system and other landfill controls are working properly.

WHAT IS METHANE? WHERE DOES IT COME FROM?

Methane is a flammable, colorless, tasteless and odorless gas. Methane is the main ingredient in natural gas used for heating and cooking. Methane is produced by decaying waste materials. Landfills commonly create methane gas because of the decaying waste materials present in the landfill. Methane can also be produced naturally when plant materials in swamps and marshes decay.

HOW DOES METHANE MOVE?

Because methane is a gas, it can move underground through small air spaces between soil particles, along air spaces next to buried utility pipes and wires, and through cracks in the foundations of homes. Methane, like any other gas, will follow a path of least resistance. This means that it is more likely to flow through loose soils, gravel or open spaces underground than through tightly packed soils.

IS THE PRESENCE OF METHANE DANGEROUS?

Methane is not toxic to the body. The main hazard from methane is causing an explosion. But that can only happen when there is the “right” mixture of methane and oxygen, and something to ignite a fire (such as a flame, spark, lit cigarette). Methane usually must become trapped in confined spaces with little ventilation to present an explosion hazard.

WHAT DO WE KNOW ABOUT METHANE AT THE LANDFILL?

Soil gas monitoring (beneath the ground surface) that began in the early 1990s shows that the landfill continues to produce methane. Methane has also occasionally been found in soil gas beyond the landfill boundary: along Rejean Road next to the landfill; further north on Rejean Road, and at the cul-de-sac of Amanda Lane. The landfill cap and gas collection/venting system installed in 2001 is designed to capture all landfill gases and vent them safely. As part of EPA’s continual 5-Year Review process, this system was evaluated in early 2010 to determine whether it is capturing and venting all the landfill gas, as designed.

To evaluate the system, the SDs conducted a gas tracer study in the northern end of the landfill. This area of the landfill was chosen for study because it is closest to homes. The study showed that the landfill gas collection/venting system may not be capturing all the landfill gas and a very small amount may be moving underground, beyond the landfill boundary. To fix this problem, a barrier was placed in the ground along the northern edge of the landfill in the spring of 2010. This barrier is now preventing landfill gas from moving beyond the landfill boundary.

WHAT ABOUT METHANE IN THE NEIGHBORHOOD?

It is likely that there is still some methane present underground in portions of the Rejean Road and Amanda Lane neighborhoods. **But we now know that this methane is not from the landfill.** The source of the methane is very likely from a large deposit of underground peat in this area. Peat is partially decayed plant material and is found in wetland areas and bogs (and areas that were formerly wetlands). As peat decomposes, it produces methane gas, which slowly moves through the soils, following the path of least resistance. Please refer to the attached figure to see the boundary of the landfill and the location of the peat deposit.



We know that the peat deposit has been in the neighborhood since before homes were built. At this time, we do not have evidence that methane gas from the peat is getting into homes or is increasing to unsafe levels in homes. However, if a resident is concerned, natural gas/combustible gas detectors are relatively inexpensive and can be bought and installed by a homeowner in their basement, much like a carbon monoxide detector.

WHAT IF I HAVE MORE QUESTIONS?

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Old Southington Landfill Superfund Site: Combustible Gas Monitoring Locations And Soil Borings With Peat And Wetlands Extents

