



COMMUNITY INFORMATION

EPA ASSESSMENT OF LICENSED LANDFILLS: CLAYTON SOUTH AREA

Introduction

EPA has recently completed an assessment of 260 current and formerly licensed Victorian landfills to assess the potential for methane gas movement. This was prompted by the recent issues at the former landfill at Stevensons Road, Cranbourne.

The assessment concluded the following:

- No landfills are likely to be having any methane effects on adjacent communities.
- No residential estates have been affected in the same way as the development adjacent to the Stevensons Road (Cranbourne) former landfill.
- A small number of landfill sites require improved gas management controls. Operators at these sites are working to ensure this work is completed as soon as possible, and EPA is monitoring their progress.

What is methane?

Methane is a natural gas that arises from the decay of organic wastes, such as food and garden wastes, in conditions where there is no oxygen. Methane is the principal gas produced by the breakdown of organic waste materials within landfills where there is no oxygen.

Methane is flammable and can be explosive when concentrations reach between five and 15 per cent in air, and where an ignition source is present. When landfill gas concentrations are very high, they can also result in asphyxiation in enclosed spaces where the amount of oxygen in the air is lower.

Where the concentration of methane exceeds one per cent in a bore at the landfill boundary, EPA requires an investigation and, where needed, improvements to methane management controls. This threshold (one per cent) is well below the lower explosive limit of methane, which is five per cent concentration.

It is important to note that no methane has been detected in homes.

Background to the Clayton South area

Much of the Clayton South area was used for sand quarrying dating back to the 1890s. This was followed by intermittent landfilling, becoming more prevalent in the 1960s. There are numerous closed and operating landfills in this area.

Older landfill cells are a legacy of historical design standards that have limited methane controls. Most of the landfills in this area have extraction systems that use gas to generate electricity. The sandy soils in the area do not create a significant barrier to offsite methane gas movement.

What was found in the Clayton South area?

In the Clayton South area (see map), EPA identified three landfills that require methane management works by the operators to monitor and stop methane movement. These landfills are located on Fraser Road, Heatherton Road and Clayton Road respectively. Methane was detected at the boundary of each of these landfills, at concentrations above one per cent.

Three isolated homes (situated away from other residential developments), two plant nurseries and a small number of industrial or commercial buildings are located relatively close to where methane was detected.

Monitoring within one of the commercial buildings found no methane. Additional monitoring next to plant nursery buildings indicated that methane is present at low levels (below one per cent). The bores closest to the three homes have also found only very low levels of methane (below one per cent). Monitoring in stormwater drains, along which methane can move, also showed very low levels.

In summary, monitoring on landfill boundaries in this area found high levels of methane outside of landfill cells. However, monitoring around nearby buildings to date indicates the methane does not extend to buildings in concentrations greater than one per cent.

What is being done in the Clayton South area now?

- Landfill operators have offered methane monitors or onsite gas monitoring bores to the occupiers of the homes, plant nurseries and other industrial buildings whilst gas management works are completed.
- Onsite gas extraction systems are being improved by operators.
- Boundary gas monitoring bore networks are either being upgraded or installed by operators.
- Operators are installing landfill gas cut-off trenches to intercept gas escaping the landfill.
- Operators have engaged EPA-approved environmental auditors to conduct an environmental audit.
- EPA has required a gas management plan from the operators, with regular updates reported to EPA.

Are homes and neighbourhoods safe?

Yes. Methane has not been detected in homes. Monitoring close to buildings (including monitoring in stormwater drains and fibre optic cable pits) showed methane gas concentrations were low (less than one per cent, which is below the EPA investigation level). Landfill operators are undertaking works to improve control of landfill gas from their sites.

How will the community be kept informed?

Further information is available on EPA's website and this information will be updated periodically. (www.epa.vic.gov.au/waste/landfill-assessments.asp).

For further information, please call the site operators or EPA on the numbers listed below:

TPI Landfills (Heatherton Rd & Fraser Rd)
9552 1713



Clayton Road Joint Venture Landfill
9558 7220



EPA Victoria
9695 2722



Landfill Sites in the Clayton South Area

Licence Nos. EM 28818, ES 20872 & ES 49849

Data Source: State of Victoria and GHD



1:7,500 (at A3)
 0 45 90 180 270
 Meters
 Map Projection: Vicgrid 94
 Datum: Geocentric Datum of Australia 1984

- Sealed Road
- Unsealed Road
- Sealed Walking/Bike Trail
- Unsealed Walking/Bike Trail
- Unsealed Track
- Freeway
- Highway
- Rail Lines
- Land Fill Site
- Parcel

Disclaimer: Only EPA licensed (and former licensed) landfills where methane was detected >1% v/v adjacent to the site are shown. The landfill site boundary reflects the boundary of the site itself, waste deposits will be present within these boundaries, commonly distributed in zones. Other landfills may be present in this area but are not shown on this plan. The extent of the plan is for context only, and should not be interpreted as the extent of methane gas movement. Suburbs surrounding these landfill sites have not been affected by methane.