



Gas Detection For Life

Application Brief

December 20, 2011

SOLUTIONS FOR LANDFILL APPLICATIONS

A landfill is a site for the disposal of waste materials by burial. It is the oldest form of waste treatment. Historically, landfills have been the most common method of organized waste disposal, and remain so in many places around the world.

Landfills may include internal waste disposal sites (where a producer of waste carries out their own waste disposal at the place of production) as well as sites used by many producers. Many landfills are also used for waste management purposes, such as the temporary storage, consolidation and transfer, or processing of waste material (sorting, treatment, or recycling).

A landfill, by the nature of the wastes placed in it, will generate dangerous gases. These gases can pose serious health and safety problems for operators and the community, both during the operation of the landfill and after it has been closed, so facilities must have landfill gas monitoring and control program plans.

CUSTOMER TYPE

Landfill Owners/Operators

CATEGORIES OF MONITORING

Monitoring data taken at landfills does not necessarily reflect the levels of contamination to which people may be exposed. However, the data usually offers some insight into general air quality, landfill gas migration, possible health hazards and conditions within the landfill itself. In general, monitoring of gases that emanate from landfills falls into the following categories:



- Monitoring at gas wells (most common)
- Soil gas monitoring
- Near surface gas monitoring
- Emissions monitoring
- Ambient air monitoring
- Protection of structures / enclosed spaces where methane can accumulate

Typical landfill gas composition	% (dry volume basis)*
Methane, CH ₄	45-60
Carbon dioxide, CO ₂	40-60
Nitrogen, N ₂	2-5
Oxygen, O ₂	0.1-1.0
Sulphides, disulphides, mercaptans etc.	0-1.0
Ammonia, NH ₃	0.1-1.0
Hydrogen, H ₂	0-0.2
Carbon monoxide, CO	0-0.2
Trace constituents	0.01-0.6

* - Exact percentage distribution will vary with the age of the landfill