



Case Study—Landfill Monitoring

CREATING SAFER SURROUNDINGS

Introduction

Landfill gas is a mixture of a number of gases typically containing 45-60% Methane. Global methane emissions from Landfill sites are estimated to be in the region of 30—70 million tonnes each year placing Landfills as one of the largest sources of human related methane emissions in the world.

In addition to the environmental impact of this gas, there is also an explosion risk of gas migrating off site and collecting in enclosed spaces such as basements and subterranean voids.

OptoSci have carried out extensive field trials in the landfill environment verifying both the robust operating characteristics of OptoSniff® and the benefits to the landfill operator.

Project

OptoSci installed a 54 point OptoSniff® system to monitor both the landfill perimeter and also from selected points within the active waste areas.

The sensor network relayed the continuous monitoring data back to the systems Central Control Unit located in the site offices.

The sensors were located in boreholes across the site and continuously recorded gas events at the perimeter and within the gas collection system for a 2 yr period.



Summary

This trial ran for 2 years and the sensors accumulated 1 million + hours of continuous operation in hostile field conditions demonstrating the robust nature of the sensing cells.

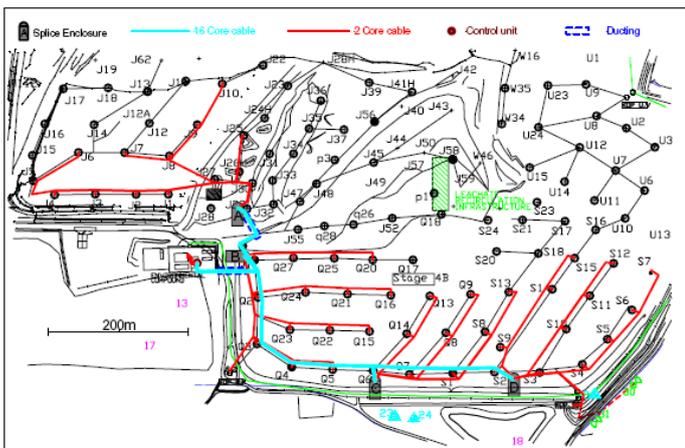
The trial also highlighted a number of gas events on-site that would have gone undetected without the use of a continuous monitoring system. This allowed the landfill operator to identify and remedy previously unknown issues with the gas collection system.

The trial successfully verified the OptoSniff® system capabilities in a real world environment and also highlighted potential refinements to the design.

Further Reading

For additional information on using OptoSniff for landfill applications please see our website.

<http://sniff.optosci.com/landfill-operations/>



Optical Network & Sensing points