



• THE BRITISH •
GEOTECHNICAL
ASSOCIATION

2005 Rankine Lecture

Wednesday 23 March 2005

Long Term Performance of Contaminant Barrier Systems

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ABSTRACT

Barrier systems for waste containment facilities typically include both permeable drainage and low permeability liner components and are constructed using a combination of natural and geosynthetic materials. This lecture describes the latest findings with respect to the long-term performance of these systems based on theoretical developments, laboratory studies and observed field behaviour. Consideration is given to the effectiveness of modern liners in controlling long-term contaminant transport under normal operating conditions. The lecture will then discuss techniques for estimating the service life of these systems. Field data relating to the clogging of leachate collections systems is examined and the latest techniques for predicting performance are highlighted. The impact of clogging on both contaminant migration and the service life of the liner system are discussed. The long term performance of geomembrane liners is then investigated. Finally consideration is given to the long term performance of clay liners, with particular emphasis on the potential for desiccation of the liners due to heat generated in landfills.

Professor Kerry Rowe

Professor Rowe received his PhD from the University of Sydney for work on soil-structure interaction. After a period with the Department of Construction in Sydney he was recruited to the University of Western Ontario in Canada as an Assistant Professor in 1979. He was promoted to Associate Professor in 1982 and Professor in 1986. He served as Head of the Department of Civil and Environmental Engineering from 1992 to 2000 prior to being recruited to become Vice Principal (Research) at Queen's University in Kingston (2000-present) where he is responsible the administration of all research conducted at Queen's. He is also a founding member of the GeoEngineering Centre at Queen's-RMC. He has eclectic research interests that include tunnelling, reinforced embankments and walls, and geoenvironmental engineering.

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Lecture 17:30 -19:15 hours Tea from 5:00pm

Main Lecture Theatre, Sherfield Building, Imperial College London, Exhibition Road,
London SW7 2AZ

All are welcome : No registration required

(For DINNER: see Separate Ticket Application Form)

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